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Iraq:
Small Arms Handbook

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October 2004
NGIC-1142-7005-05

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Iraq: Small Arms Handbook

Information Cutoff Date: 1 October 2004

DoDIPP Record Identification # 05-7005

NGIC-1142-7005-05

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Overview

The weapons listed in this handbook are the majority of small arms and portable rocket launchers known to be in Iraq. Some "weapons of concern" or potential weapons likely or possible to proliferate into theater are also listed, notably anti-materiel rifles, tandem-warhead rockets and thermobaric weapons. It is important to note that small numbers of virtually any weapon manufactured in the world can be found in Iraq.

Indigenously produced small arms are almost exclusively or heavily influenced by the former Yugoslavia and continued to some degree under the modern state of Serbia. Although most small arms may be recognized as Soviet/Russian designed, they are in fact modified Yugoslavian versions of those weapons.

Many Iraqi-produced weapons have tritium night-aiding sights, specifically the machineguns. Tritium sights are a Yugoslav-inspired upgrade to the standard Soviet/Russian design. It is also a quick visual reference point to distinguish them from their Russian cousins, specifically on the RPK light machinegun.

Weapon system designations are listed in the established Western format; Iraqis will designate the same weapons in a slightly different manner due to the Arabic alphabet. The most commonly used weapon names in Iraq are 'Klashnikuf," "RBG," RBK," and "BKC." See next page for a list of these weapon designations.

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Western Designations	Iraqi Designations
Rifle	Bundiqiya or Bundigiya
Automatic Rifle	Bundiqiya Aaliya
Sniper Rifle	Bundiqiya Qanassa or Bundigiya Ganassa
Machinegun	Rashasha
Grenade	Rumana
Light launcher (RPG)	Qaadhifa Khafifa or Gaadhifa Khafifa (dh=th)

Western Designations	Iraqi Designations
Tabuk	Tabook
AK/AKM	Kalashnikov, Kalashkof, or Klashnikuf
SVD Dragunov	Draknuf
Al-Kadissiya	Al-Qadissiya or al-Gadissiya
RPK	RBK, Al-Quds, Al-Kuds, of Al-Guds
RPD	Degtaryev, Daktriuf, or Suez
PK/PKM	PKS or BKC
Goryunov	Kurinuf or Aswan
RPG-7	RBG or RBJ
SPG-9	SBG

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Weapons Confirmed to be in Theater
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Rifles/Assault Rifles

The worldwide trend in assault rifles over the last 10 years has been away from 7.62 mm to either 5.45- or 5.56-mm weapons. Iraq and Middle Eastern countries did not make this transition to smaller caliber weapon systems. Some 5.45- and 5.56-mm rifles may be found in theater; however, they are most likely status weapons carried by leaders or foreign fighters.

Pre-war, Iraq-produced indigenous versions of the Yugoslav M64/M70 Assault Rifle, which was a Yugoslav version of the Russian AKM. The Iraqi version is known as the Tabuk. The Tabuk and M64/M70 are virtually identical to the AKM minus some superficial changes to the stock and fore-end. The most notable difference between the systems is that the Tabuk and M64/M70 can be modified to fire rifle grenades. Rifle grenades are the precursor to the modern low-velocity grenade launchers such as the M79 or M203. It is important to note that not all Tabuks have the FAZ grenade-launching sight, the gas port shut-off switch, or the spigot-type grenade launcher attached to the muzzle.

The primary rifle to be encountered in Iraq is the Tabuk/AKM and folding stock variants. Less common, but still in noticeable numbers, are the AK-47, FN FAL, and the H&K G3. The venerable SKS and Mosin-Nagant can also be found in lesser numbers as well. Iraqi SKSs can also be found with FAZ rifle grenade attachments.

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SKS

Figure 1. SKS

Figure 2. SKS With Rifle Grenade Attachment

Country of origin: ..... Russia and others
Caliber: ..... 7.62x39 mm
Max effective range: ..... 400-500 m
Rate of Fire: ..... 30-40 rpm
Operation: ..... Semi-auto
Overall Length: ..... 1.021 m
Feed Device: ..... Internal 10-rd capacity
Weight loaded: ..... 3.85 kg

The SKS is a 7.62x39-mm self-loading rifle, which is gas operated of conventional design with a charger-loaded, 10-round, box

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magazine enclosed inside the receiver. There is a catch below the receiver, behind the magazine, which when pressed releases the bottom plate of the magazine to allow rapid unloading. It has a permanently attached folding-blade bayonet. It is now regarded as obsolete; however, it is significant for Iraq due to its ability to fire FAZ rifle grenades (FAZ rifle grenade attachment shown on bottom picture).

To load the rifle, the cocking handle on the right of the bolt is retracted, and the bolt will be held to the rear by the bolt hold-open device. The SKS is loaded using a10-round charger, which is placed in the charger guides on the front face of the bolt carrier; the top cartridge is pressed firmly downwards until all 10 cartridges are held within the integral magazine. When the 10 rounds are in the magazine, the charger is rem.

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AK-47 & AKS-47

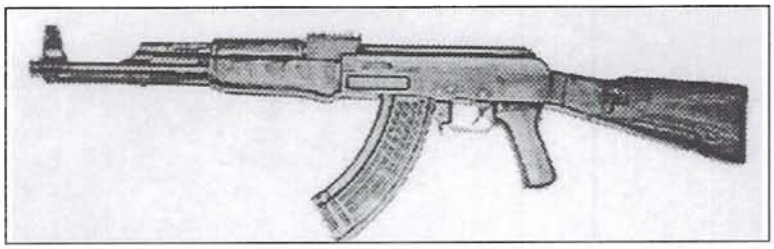

Figure 3. AK-47

Figure 4. AKS-47

Country of origin: ..... Russia and others
Caliber: ..... 7.62x39 mm
Max effective range: ..... 300 m
Rate of Fire: .....600 rpm (250 rpm–semi-auto)
Select Fire: ..... (auto/semi-auto)
Overall Length: ..... 900 mm (AK-47)/550/800 mm (AKS-47)
Feed Device: ..... 30-rd box magazine
Weight loaded: ..... 4.3 kg

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The AK-47 assault rifle is a compact weapon, capable of selective fire, and is robust and reliable. It has generally been replaced with the AKM; however, it will still be encountered due to the large numbers produced (>50 million).

The AK-47 may be encountered in two basic configurations: one with a rigid butt (the AK-47) and one with a double-strut folding metal butt-stock (the AKS-47) controlled by a simple press-button release above the pistol grip.

Using the AK-47/AKM

1. Insert the 30-rd magazine into the underside of the receiver, forward end first, then draw up the rear end of the magazine until a click is heard or until the magazine catch is felt to engage.

2. Pull the operating handle, located on the right side of the receiver, smartly to the rear and release it (the bolt will run home and chamber a round).

3. Push the safety lever from the uppermost position: SAFE, to the middle position: AUTO or all the way down to SEMI.

4. WEAPON IS READY TO FIRE. (Note: Although the AK is a heavy weapon, it climbs rapidly during automatic fire.)

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AKM & AKMS

Figure 5. AKM

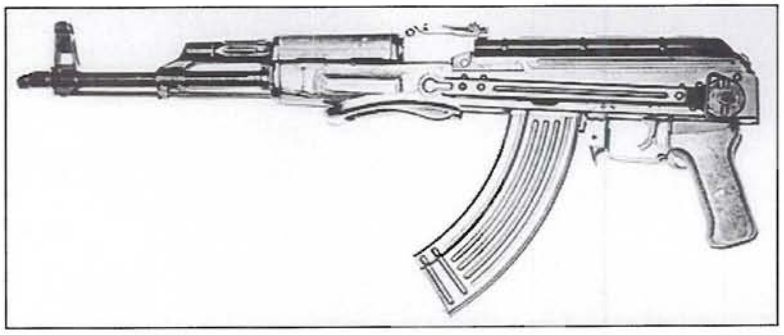

Figure 6. AKMS

Country of Origin: ..... Russia and others
Caliber: ..... 7.62x39 mm
Max effective range: ..... 300 m
Rate of Fire: .....600 rpm (250 rpm–semi-auto)
Operation: ..... Select fire (auto/semi-auto)

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Overall Length: ..... 900 mm (AK-47)/550/800 mm (AKS-47)
Feed Device: ..... 30-rd box magazine
Weight loaded: ..... 3.75-3.86 kg (AKM) & 3.2 kg (AKMS)

The 7.62×39-mm AKM assault rifle is a modernized version of the AK-47. The forged and machined receiver of the AK-47 was replaced by a body of pressed-steel construction. Riveting is employed extensively. The results of these changes are lower manufacturing costs and a reduction in weight from 4.3 to 3.14 kg.

There is no essential difference between the functioning of the AKM and that of the AK-47. There is an additional assembly in the trigger mechanism: a device to delay the fall of the hammer during automatic fire until the breech is closed and locked.

Several features distinguish the 7.62-mm AKM assault rifle from the AK-47:

- A small recess in each side of the receiver centrally over the magazine serves as a magazine guide.
- The lower hand guard has a groove for the firer's fingers.
- The receiver top cover has reinforcing ribs.
- There is an additional bayonet lug under the gas tap-off point on late-model variants to accept the issue under-barrel grenade launcher.
- The four gas-escape holes on each side of the gas cylinder are omitted.
- The sight is graduated to 1000 meters instead of to 800 meters.
- A dished or cutaway compensator is fitted to the muzzle.

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Tabuk & Tabuk-s

Figure 7. Tabuk

Figure 8. Tabuk-s

Country of origin: ..... Iraq
Caliber: ..... 7.62x39 mm
Max effective range: ..... 300 m
Rate of Fire: .....600 rpm (250 rpm–semi-auto)
Operation: .....Select Fire (auto/semi-auto)
Overall Length: ..... 900 mm (TABUK)/550/800 mm (TABUK-S)

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Feed Device: ..... 30-rd box magazine
Weight unloaded: ..... 3.75 kg (Tabuk) & 3.21 kg (Tabuk-s)

The Tabuk 7.62×39-mm assault rifle is the Iraqi version of the Yugoslavian M70 series of assault rifles. It has the receiver or body of the RPK light machinegun. Minor changes to the standard AKM variant include a more substantial wood stock and fore-end, the stock being fitted with a rubber butt pad. An integral grenade-launcher sight is fitted to the top of the gas-piston block and is graduated for firing either antipersonnel or antitank high-explosive antitank (HEAT) grenades. The sight, when placed in the raised position, acts as a gas cut-off, ensuring that all propellant gases are used to propel the grenade from the muzzle and to prevent damage to the internal working parts.

To fire rifle grenades, the threaded recoil compensator at the muzzle must be removed and replaced with a grenade-launcher spigot.

The Iraqis are also believed to have produced a 5.56-mm version of their Tabuk assault rifle. It is a copy of the standard Kalashnikov AKM or AKMS chambered to fire the 5.56×45-mm cartridge. Details are scant, and there is no information available as to the rifling, but it is presumed that it is rifled to suit the widely distributed U.S. M193 cartridge. Versions are available with a fixed wooden butt or with a light metal folding butt. Its appearance is identical to that of the standard AKM rifle.

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FAZ Rifle Grenade

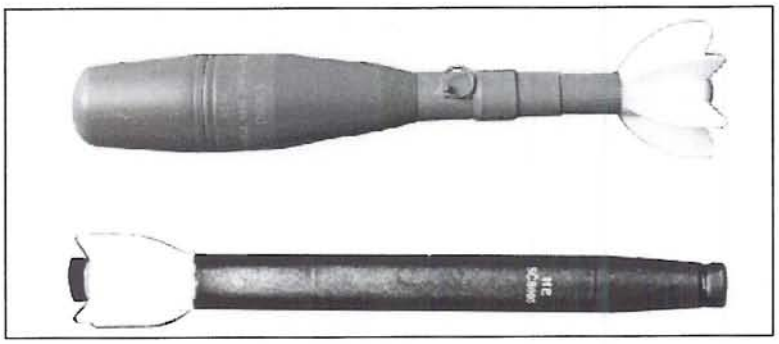

Figure 9. M60 AT HEAT and M60 APP1

Figure 10. M62 Smoke/Illumination Grenade

Country of origin: ..... Yugoslavia
Caliber: ..... 60 mm (HEAT); 30 mm (AP)
Max range: ..... 330 m (HEAT); 410 m (AP)
Overall Length: ..... 390 mm (HEAT); 307 mm (AP)
Weight ..... 610 g (HEAT); 520 g (AP)

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There is some reporting of rifle grenades being used in Iraq. They are believed to be more widespread, but mistaken for mortar attacks.

Pre-war Iraq was assessed not to have produced its own FAZ Rifle Grenades, relying instead on purchased Yugoslav rifle grenades.

These rifle grenades provide a multitude of capabilities to the individual rifleman similar to those of U.S. forces provided by the 40-mm grenade family of ordnance. Filling the short-range void left by mortar systems, these grenades allow the engagement of armored targets, fortifications, transport vehicles, and personnel.

Because of the tremendous recoil, the Iraqis are trained to fire rifle grenades with the butt of the weapon tucked under the arm rather than on the shoulder, which makes it less accurate than the U.S. M203. Iraqi grenadiers generally carry four grenades of various types plus the screw-on launcher and special blank cartridges with adapters in a specially designed pouch.

Pre-war Iraq fielding: Each 10-man regular infantry section is authorized one FAZ rifle. Mechanized infantry units are authorized two FAZ rifles per eight-man section. Commando units are authorized two FAZ rifles per 10-men section.

Table 1. Grenade Identification

	HEAT	AP	Smoke	ILLUM
Body Color	Lt. Green	Green, OD	Lt. Green	Lt. Green
Fin Color	Lt. Green	White	White	White
Tail Boom Color	Lt. Green	Green, OD	Lt. Green	Lt. Green
Marking Color	Yellow	Yellow	White	Yellow

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FN FAL

Figure 11. FN FAL

Figure 12. FN FAL With Folding Stock

Country of origin: ..... Belgium & others
Caliber: ..... 7.62x51 mm
Max effective range: ..... 600 m
Rate of Fire: ..... 600-700 rpm
Operation: ..... Select fire (auto semi-auto)
Overall Length: ..... 880 mm (folded stock)
Feed Device: ..... 20-rd box magazine
Weight loaded: ..... 5.17 kg

The FN FAL 7.62-mm rifle has been adopted by more than 90 countries throughout the world. It is, or has been, manufactured under license in several countries, and some of these have incorporated their own minor modifications to suit their own particular needs. In some instances these modifications have resulted in deviations from the original specification to the extent that some licensed weapons are not interchangeable with others.

To load the FAL, the front end of a loaded magazine is placed in the housing and the rear end rotated back and up until the magazine catch clicks in to lock it in position. The selector lever is above the pistol grip on the left of the receiver and is operated by the thumb of the right hand. The "safe" position is at the top; "repetition/semi-automatic" lies below it, and "automatic" is further forward. In the UK (L1A1), Canadian, Indian, and Netherlands versions, there is no automatic fire. The cocking handle is on the left side of the receiver. On some models it folds flat and must be pulled back to extend it at a right angle before it can be used. When the cocking handle is retracted fully and then released, the bolt picks up the top round from the magazine and

chambers it. The weapon always fires from the closed bolt position.

H&K G3

Figure 13. Turkish/Iranian G3-A3/G3-A1 and G3-A4/G3-A1-1

Figure 14. H&K G3-A3

Country of origin: ..... Germany, Iran, Turkey, & others
Caliber: ..... 7.62x51 mm
Max effective range: ..... 400 m
Rate of fire: ..... 500-600 rpm
Operation: ..... Select fire (auto/semi-auto)
Overall length: ..... 1.025 mm (G3-A3)/840 mm (G3-A4)
Feed device: ..... 20-rd box magazine
Weight loaded: ..... 4.7 kg

The Heckler & Koch (H&K) G3 has been the service rifle of the German Army since 1959, but was recently replaced by the G36. Nevertheless, it remains in production not only in Germany but also in other countries where licensed production has been negotiated. Many of these producer nations also have marketing rights, so G3 rifles may be encountered almost anywhere throughout the world, often without H&K authorization or knowledge.

The G3A6 is the H&K designation given to a version developed for license production in Iran. Rifles are produced in two versions, the Iranian designation G3-A1 with a fixed butt and the G3-A1-1 with a retractable butt.

The G3-A7 is the H&K designation given to a version developed for license production in Turkey by MKEK. These are produced in two versions, the Turkish designation G3-A3 with a fixed butt and the G3-A4 with a retractable butt.

Sniper Rifles & Components

Sniper rifles were noticeably absent for almost a year after the start of OIF. A significant spike in their use has been identified since the spring 2004 uprising. The four identified sniper systems identified thus far are the Russian Dragunov (SVD), the Al-Kadissiya (the Iraqi version of the SVD), the Romanian FPK, and the Tabuk Sniper. It is likely that other systems similar to the SVD are available in theater, but due to their similar appearance, it is difficult to identify specific variations unless a close examination is done.

The rise of sniper systems, specifically of the 7.62x54R-mm caliber, is significant for two reasons:

- Iraqi insurgent marksmanship to this point has been extremely poor. Coalition casualties due to small arms fire outside 50 meters could be attributed more to luck than to aimed fire. While there is probably not a insurgent sniper program taking place out in the desert, nor are all the people carrying these weapons trained snipers from the pre-war Iraqi Army. A scoped weapon allows its firer to perhaps be reasonably effective out to 200-300 meters. So it can be argued that the Iraqi insurgents are now to some degree producing aimed fire.
- The U.S. SAPI plate was designed to provide Level 3 protection vs. small arms. Level 3 protection is defined as protection against rifle ball, which by industry is sub-classified as 7.62x54R light ball. 7.62x54R light ball has less penetration than heavy ball and armor-piercing rounds.

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Dragunov SVD

Figure 15. Dragunov (SVD) (Right Side Profile)

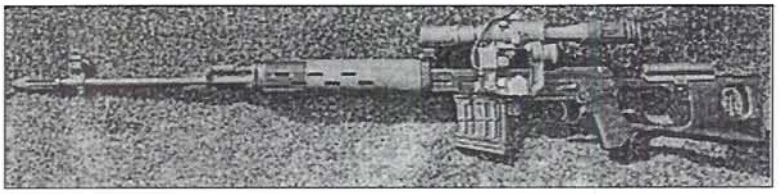

Figure 16. Dragunov (SVD) (Left Side Profile)

Country of origin: ..... Russia
Caliber: ..... 7.62x54R mm
Max effective range: ..... 800-1000 m
Rate of Fire: ..... 30-40 rpm
Operation: ..... Semi-auto
Overall Length: ..... 1225 mm
Feed Device: ..... 10-rd box magazine
Weight:
w/PSO-1 & empty magazine: ..... 4.3 kg
w/PSO-1 & loaded magazine: ..... 4.51 kg
w/NSPU-3 night sight: ..... 6.4 kg

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The SVD is a semi-automatic sniper rifle with a 10-round magazine and is chambered for the rimmed 7.62×54-mm cartridge. It is gas-operated, with a cylinder above the barrel. There is a two-position gas regulator, which may be adjusted using the rim of a cartridge case as a tool. The first position is employed in the usual operation of the rifle, and the second is for extended use at a rapid rate or when conditions are adverse.

The bolt system is, in principle, exactly the same as that used in the AK-47, the AKM, and the RPK, but the SVD bolt cannot be interchanged with those of the other weapons, which fire the 7.62×39-mm rimless round. The assault rifles and light machinegun are operated on a long-stroke piston principle, which is inappropriate for this rifle since the movement of the fairly heavy mass with the consequent change in the center of balance prevents extreme accuracy. Therefore, in the Dragunov, the designer used a short-stroke piston system.

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AL-Kadissiya

Figure 17. AL-Kadissiya

Country of origin: ..... Iraq
Caliber: ..... 7.62x54R mm
Max effective range: ..... 800-1000 m
Rate of Fire: ..... 30-40 rpm
Operation: ..... Semi-auto
Overall Length: ..... 1230 mm
Feed Device: ..... 10-rd box magazine
Weight:
w/PSO-1 & empty magazine: ..... 4.3 kg
w/PSO-1 & loaded magazine: ..... 4.51 kg
w/NSPU-3 night sight: ..... 6.4 kg

The Al-Kadissiya sniper rifle is simply the standard Russian Dragunov SVD rifle in 7.62×54R-mm caliber manufactured in Iraq.

The Al-Kadissiya differs from the SVD in several respects:

- The Al-Kadissiya has a unique pressed-metal receiver, which is longer than that of the SVD, although the overall length of the rifle is similar to that of the SVD.

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- The barrel is pinned, rather than screwed, to the receiver, although it is the same length as that of the SVD.
- The receiver top cover is pressed metal of angular shape.
- The fore-end has four longitudinal slots on each side instead of six short slots.
- The magazine has an ornamental relief pattern showing a stylized palm tree.

FPK (SSG-97)

Figure 18. FPK (SSG-97) (Right Side Profile)

Figure 19. FPK (SSG-97) (Left Side Profile)

Country of origin: ..... Romania
Caliber: ..... 7.62x54R mm
Max effective range: ..... 800-1000 m
Rate of Fire: ..... 30-40 rpm
Operation: ..... Semi-auto

Overall Length: ..... 1240 mm
Feed Device: ..... 10-rd box magazine
Weight loaded: ..... 4.95 kg

The Romanian 7.62×54-mm R (Rimmed) FPK sniper rifle, while superficially similar to the Russian SVD Dragunov sniper rifle, was developed in the late 1970s and is based on the receiver or body of the RPK light machinegun. It functions in the same manner as the Kalashnikov series, although it is dimensionally larger than the RPK (from which it is derived) in order to accommodate the longer length of the 7.62×54-mm rimmed cartridge. A bolt hold-open device is fitted to the rear of the gun. This retains the working parts when the last round in the magazine is fired.

Although classified as a sniper rifle, the FPK is intended to be carried and used as a section weapon. Although it does not provide the long-range accuracy of other weapons in the category, it is robust and adequate in its intended role of providing accurate aimed fire at battlefield ranges.

A sight rail of similar dimensions to that of the SVD Dragunov is fitted to the left-hand side of the receiver for the PSO-1 optical sight or copy. It will also accept other types of sight with compatible sight rails. Its secondary role of providing support in the infantry section is enhanced by the provision of a 10-round magazine and by the ability to fit a standard AKM bayonet.

Tabuk Sniper Rifle

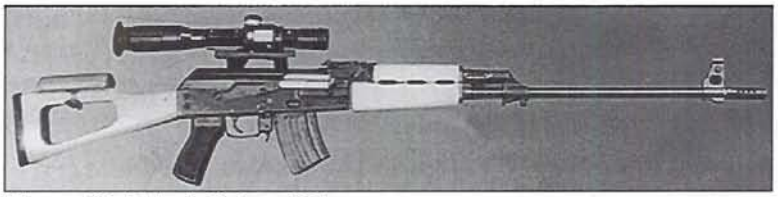


Figure 20. Tabuk Sniper Rifle

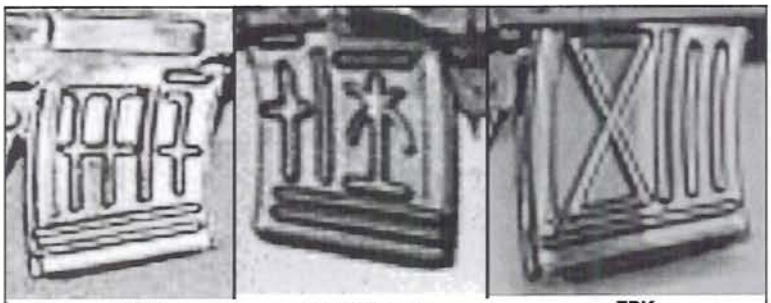
Country of origin: ..... Iraq
Caliber: ..... 7.62x39 mm
Max effective range: ..... 800 m (claimed)/400-600 m (likely)
Rate of Fire: ..... 30-40 rpm
Operation: ..... Semi-auto
Overall Length: ..... 1110 mm
Feed Device: ..... 10-rd box magazine (see below)
Weight unloaded: ..... 4.5 kg (w/scope)

The Tabuk 7.62-mm sniper rifle is based on the standard 7.62×39-mm Kalashnikov action, but is fitted with a long barrel with a muzzle brake, a skeleton butt, and an optical sight. The general effect is similar to that of the Yugoslav M76 rifle, but it fires the standard intermediate rimless cartridge rather than one of the more powerful cartridges more usually found in sniper weapons. The effective range is claimed to be 800 meters, but is likely to be less in practice (see above specs).

The Tabuk Sniper Rifle can mount a standard SVD PSO-1 or a Zastava style 4x scope (which is black in color).

The Tabuk Sniper Rifle is issued with the 10-round box magazine; however, it can accept any AK-style magazine to include the 30- & 40-round box magazines and the 75-round drum.

SVD-Style Magazine Recognition



Visual recognition/identification of SVD-style sniper rifles can be difficult outside of close visual inspection and can be almost impossible at a distance. However, of the types known to be in Iraq, each possesses a distinctive magazine style.

The SVD & Type 79 magazines have four distinctive vertical lines with one horizontal line midway up the magazine (dissecting the 1st, 3d, & 4th vertical lines) and two semi-diagonal lines on the bottom of the magazine.

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The most distinctive recognizable pattern on the Al-Kadissiya magazine is an ornamental relief pattern showing a stylized palm tree (this is towards the trigger guard when placed in the weapon). In addition to the ornamental relief pattern, the magazine also has two vertical lines with a horizontal line dissecting the forward line 2/3 of the way up the vertical line (forward part of the magazine when laying flat). The Al-Kadissiya also has two semi-diagonal lines on the bottom of the magazine.

The FPK magazine has two distinctive vertical lines forward with a raised hourglass rear of the forward lines. Additionally, the magazine possesses one semi-diagonal line on the bottom of the magazine.

All three of the magazine styles shown above are interchangeable among the weapons and cannot be 100% relied upon for positive identification.

PSO-1 Scope

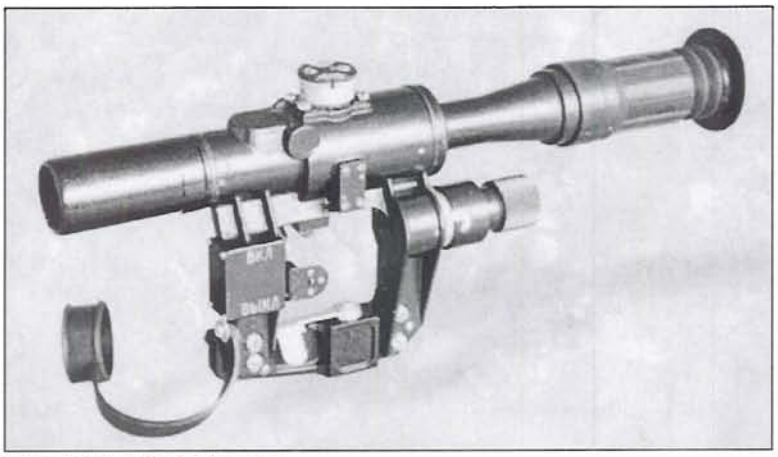

Figure 21. PSO-1 Scope

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Country of origin: ..... Russia & others
Magnification: 4x
Field of View: ..... 6 degrees
Cam: 7.62x54R
Color: ..... Grey or Green

The PSO-1 sight is a 4x telescopic sight. It is longer than most telescopic sights, at 375 mm, but a rubber eyepiece is included in this length. The firer's eye is in contact with this rubber eyepiece, which automatically gives the correct eye relief of 68 mm. The true field of view is 6°, which is comparable with that obtained in most military telescopes of modern design. The coating used on the lenses to reduce light loss on the interchange surfaces is extremely effective, and the depth and uniformity of the deposit compare favorably with any other similar sight in service. The weight of the PSO-1 is 580 g. The latest version of this sight is the PSO-1M2.

The PSO-1 sight incorporates a metascope, meaning that it is capable of detecting an infra-red source. It is not sufficiently sensitive to be used as a night-vision sight. This endoscope is powered by a hockey-puck-style battery. When fitted with the PSO-1 optical sight, the SVD has the designation 6V1.

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Machineguns

The standard light machinegun in use by the insurgency is the 7.62x39-mm Al-Quds/RPK and their folding stock variants. It is a heavy-barreled, light machinegun version of the Tabuk/AKM. Generally it is carried with the 40-round box magazine or the 75-round drum; however, it can be found with the standard 30-round box magazine. Lesser numbers of belt-fed RPDs can also be found.

The standard general-purpose machinegun in use is the 7.62x54R-mm PKM. Some PKT's, the coaxial version of the PKM used on armored vehicles, have been identified in their dismounted configuration as well.

Heavy machineguns are available in large numbers in Iraq, with the Russian DShK-38 being the most numerous. Their use has been very limited, except for a recent spike in Spring and Summer of 2004 in insurgent safe areas, such as Al-Fallujia and Najaf. This is largely due to their weight, which does not facilitate the hit and run tactics favored by the insurgency, and its firing signature, which immediately attracts overwhelming Coalition firepower once employed.

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Al-Quds/RPK & RPKS Light Machinegun

Figure 22. Al-Quds/RPK Light Machinegun With 75-rd Drum

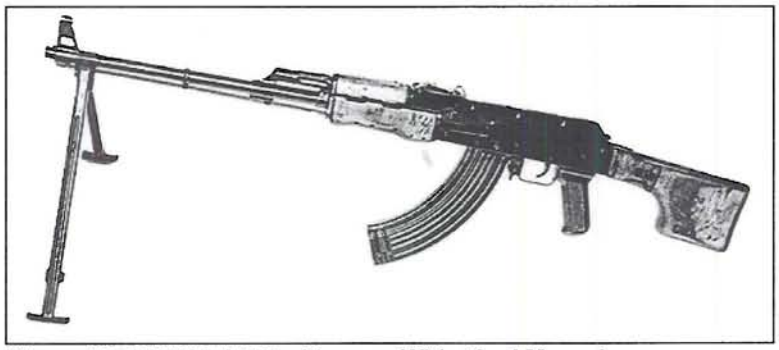

Figure 23. RPK Light Machinegun With 40-rd Magazine

Country of origin: ..... Iraq, Yugoslavia, Russia, & others
Caliber: ..... 7.62x39 mm
Max effective range: ..... 800 m
Rate of fire: ..... 600 rpm
Operation: ..... Select fire (auto/semi-auto)
Overall length: ..... 1040 mm (RPK); 820 mm (RPKS-folded)

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Feed device: ..... 75 rd drum or 40 rd box magazine
Weight: .....4.9 kg (no magazine); 368 g (40-rd mag);
900 g (75 rd drum)

Iraqi light machineguns, known as the Al-Quds, are indigenous versions of the Yugoslav M72B1 (fixed wooden stock) & M72AB1 (easily detachable folding metal stock). Structurally, although there are many points of difference, the M72B1 and M72AB1 resemble the Kalashnikov RPK and have a similar performance.

Tactically the weapon is designed for use against ground targets up to 800 meters and air targets up to 500 meters. The rear sight is graduated from 100 to 1000 meters in 100-meter steps and incorporates an engraved windage scale with two mil divisions. Both sights are marked with tritium spots for firing in conditions of poor visibility.

Using the RPK

1. Insert the magazine or drum into the underside of the receiver, forward end first, then draw up the rear end of the magazine until a click is heard or until the magazine catch is felt to engage.

2. Pull the operating handle, located on the right side of the receiver, smartly to the rear and release it (the bolt will chamber a round).

3. Push the safety lever from the uppermost position: SAFE, to the middle position: AUTO or all the way down to SEMI.

4. WEAPON IS READY TO FIRE.

PKM General Purpose Machinegun

Figure 24. PKM With Bipod

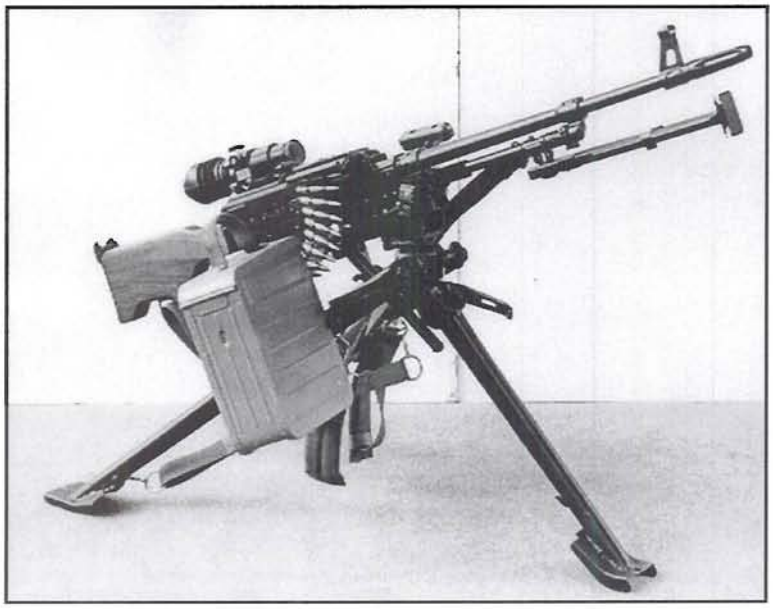

Figure 25. PKMS

Country of origin: ..... Iraq, Yugoslavia, Russia, & others
Caliber: ..... 7.62x54R mm
Max effective range: ..... 1000 m
Rate of fire: ..... 700 rpm (cyclic)/250 rpm (sustained)
Operation: ..... Automatic
Overall length: ..... 1175 mm
Feed device: ..... 100 & 250 rd non-disintegrating link belts
Weight: ..... 10 kg (weapon)/5 kg (tripod)

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Iraqi general-purpose machineguns are indigenous versions of the Yugoslav M-84. The M-84 closely resembles, both in appearance and mechanically, the Russian PKM. Some versions may be found with a skeleton stock.

The M84 fires either from a bipod or from a tripod. It is claimed to have an effective range up to 1000 meters against both ground and aerial targets. The air-cooled barrel is capable of firing 500 rounds continuously before needing to be changed. It is fed by 100-round or 250-round belts (in 25-round sections)—for which belt boxes are issued.

Using the PKM

1. Open cover by pressing catch at top rear of cover.

2. Lay belt in feedway from the right, first round flush against cartridge stop.

3. Close cover, pull operating handle to rear; the cocking handle stays to the rear on the first two versions of the gun, but is pushed forward and folded upward on the later models.

4.WEAPON IS NOW READY TO FIRE. (Note: Safety located on receiver at rear of trigger.)

M86/PKT Vehicular Machinegun

Figure 26. M86/PKT

Country of origin: ..... Iraq, Yugoslavia, Russia, & others
Caliber: ..... 7.62x54R mm
Max effective range: ..... 1000 m (vehicle); <200 m (dismounted)
Rate of fire: ..... 700 rpm (cyclic)
Operation: ..... Automatic
Overall length: ..... 1080 mm
Feed device: ..... 100 & 250 rd non-disintegrating link belts
Weight: ..... 10.66 kg (weapon)

The M86/PKT has been observed being used in the dismounted configuration in Iraq.

A vehicle version of the M84/PKM general-purpose machinegun, the M86 or PKT, has also been produced. The M86/PKT may be found in three different versions: a coaxial gun, an external commander's gun (and if required can be used dismounted). In the dismounted configuration, the firing solenoid is replaced by a

manual trigger group and pistol grip combined with a rudimentary butt.

RPD General-Purpose Machinegun

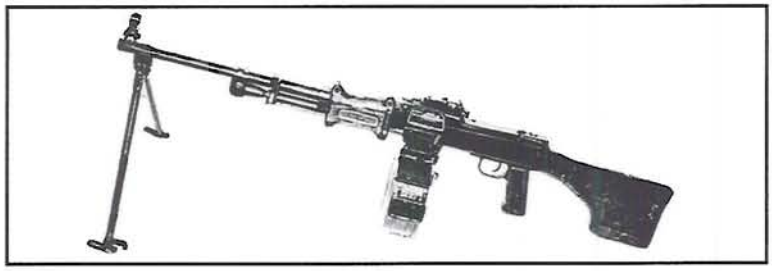

Figure 27. RPD Machinegun (Left Side Profile)

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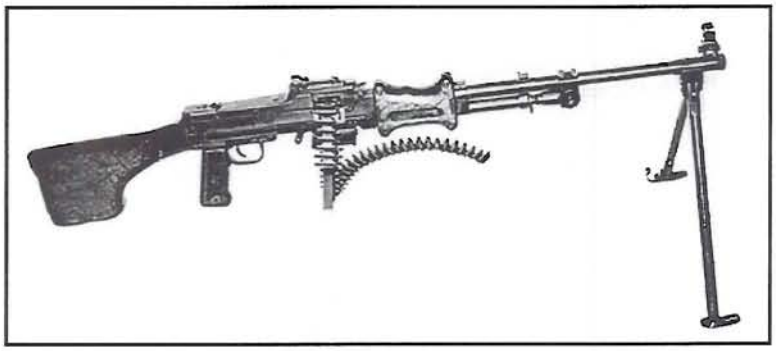

Figure 28. RPD Machinegun (Right Side Profile)

Country of origin: ..... Russia & others
Caliber: ..... 7.62x39 mm
Max effective range: ..... 800 m
Rate of fire: ..... 700 rpm (cyclic)
Operation: ..... Automatic
Overall length: ..... 1036 mm
Feed device: ..... 100-rd non-disintegrating link belts
Weight unloaded: ..... 7.1 kg

The RPD was designed toward the end of WWII and thus rated as obsolescent by most countries. However, many are still available, especially in Africa, Asia, and to some degree the Middle East (still in production and fielded by Egypt).

The RPD is a non-disintegrating link, belt-fed, automatic weapon. It is gas operated and has a locking system, which uses locking lugs pushed out to lock, not by the firing pin but by a wedge on top of the slide.

The RPD fires only in the automatic role; the barrel is fixed and cannot be changed.

Sights: The foresight is a post. The rear sight is a tangent U. The rear sight leaf registers from 100 to 900 meters in 100-meter steps. A night sight, such as the NSP-2, can be fitted.

To Load the RPD

1. Open the cover on the belt carrier.

2. The belt is inserted from the left, with the loading tab outside.

3. When the belt is in place and the top cover is replaced, the cocking handle can be retracted. (The cocking handle stays to the rear on the first two versions of the gun, but it is pushed forward and folded upward on the later models.)

DShK-38 Heavy Machinegun

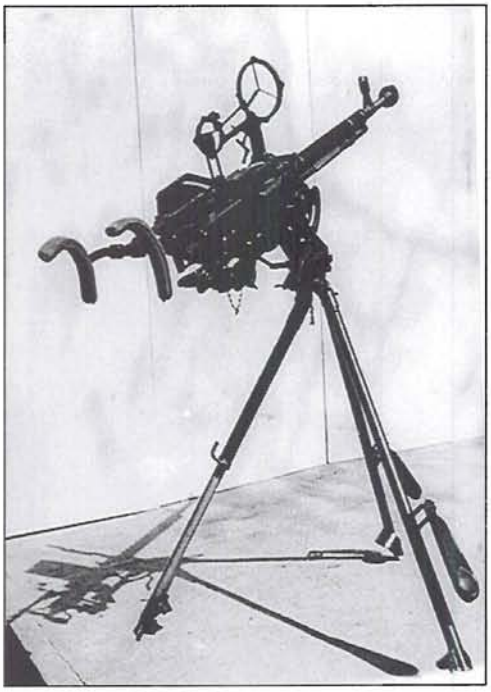

Figure 29. DShK-38

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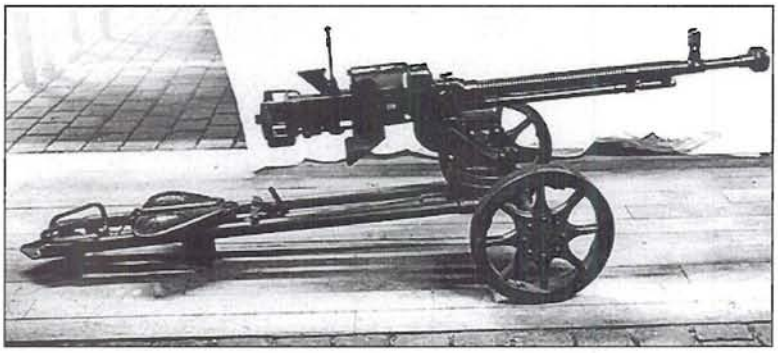

Figure 30. DShK-38

Country of origin: ..... Russia & others
Caliber: ..... 12.7x108 mm
Max effective range: ..... 1500 m
Rate of fire: ..... 600 rpm
Operation: ..... Automatic
Overall length: ..... 1588 mm
Feed device: ..... 50-rd non-disintegrating link belts
Weight: ..... 37.5 kg (weapon)

This is the Iraqi version of U.S. M2 .50-caliber heavy machine-gun. It can be both ground and vehicle mounted.

It is found in Iraq in large numbers. There are no reports of wide-spread use by insurgency—most likely due to weight and high signature when employed. There was limited usage of 12.7-mm in recent fighting, during Spring/Summer of 2004.

The 12.7-mm DShK-38 feeds from the left and has a fixed barrel. The Model 38/46 can readily be adapted for feed from either side, by changing some parts in the feed mechanism. Unlike the U.S. M2 .50 cal, the DShK does not have a quick-change barrel.

Using the DShK

1. Push forward the feed latch located at top rear of feed cover and lift cover.

2. Place belt on revolving block so that the first round can be put in the upper recess of feed block.

3. Hold free end of belt w/right hand and press feed belt against revolving block.

4. Rapidly rotate block w/belt as far to the right as possible.

5. Close cover; Pull operating handle to rear until slide is engaged. **WEAPON IS READY TO FIRE.**

6. Hold both spade grips and depress trigger.

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Portable Rocket Launchers

The most common infantry antiarmor weapon in the Iraqi inventory is the RPG-7. The Iraqis produced a copy under license as the Al-Nassira. The RPG-7 is a simple, rugged, and effective weapon system. Relatively untrained troops can quickly be taught to achieve tactical proficiency with the system in a matter of hours. Numerous warheads exist for the system to include unitary warhead antitank, Frag-HE, tandem warhead antitank, and enhanced blast/thermobaric. Only unitary, warhead, antitank, and Frag-HE warheads are known to be in the Iraqi inventory at this time.

Using the RPG-7 open sights, accurate engagements beyond 250-300 meters is somewhat problematic. The PGO optical sight with its ranging reticle increases the direct fire range to 500 meters for most antitank rounds. Russian-manufactured night sights are available for the RPG-7, and the Iraqis are known to have some.

In addition to the RPG-7, there are numerous single-shot disposable light antiarmor weapons of various national origins. However, their numbers are currently small in comparison to the RPG-7. The RPG-18 and 22 are the next most numerous after the RPG-7.

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PG-7 "KNUT"

Figure 31. RPG-7 Launcher With PG-7 Grenade

Country of origin: ..... Russia, Bulgaria, Egypt, & others
Launcher caliber: ..... 40 mm
Launcher length: ..... 950 mm
Max effective range: .330 m (moving), 500 m (stationary), 1000 m (area)
Armor penetration: ..... 260-500 mm RHA (depending on warhead)
Operation: ..... Percussion fired (firing pin)
Max rate of fire: ..... 6 rds/min
Weight: .....6.3 kg (launcher w/PGO-7 sight)

This RPG is widely available in Iraq and is the primary portable rocket launcher in use by the insurgency.

The RPG-7 possesses the ability to fire many different types of rounds based on the mission and target presented. The primary

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round available and in use is the unitary (single-warhead), high-explosive, antitank (HEAT) round. Also available are tandem (double-warhead) HEAT rounds designed to defeat explosive reactive armor (ERA), antipersonnel (APERS) rounds in both a high explosive (HE) and HE fragmentation version, and volumetric/thermobaric rounds. Also available in very limited numbers are illumination, incendiary, smoke, and bunker-buster rounds.

All variants are fitted with flip-up iron sights and can mount optical sights on the rail fitted to the left side of the launcher. The most common optical sight is the PGO-7 pictured above. Most versions have two pistol grips, the front one containing the trigger and hammer.

The rockets are percussion primed. Most rockets have a booster charge to expel the rocket from the launcher and a rocket motor to accelerate the rocket to its maximum velocity. A few of the fragmentation rounds are launched using only the booster charge.

Type 69 Launcher

Figure 32. Type 69 Launcher

Country of origin: ..... China
Launcher caliber: ..... 40 mm
Launcher length: ..... 910 mm
Max effective range: ..... 300 m (moving), 500 m (stationary), 1000 m (area)

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Armor penetration: ..... 260-500 mm RHA (Depending on warhead)
Operation: ..... Percussion fired (firing pin)
Max rate of fire: ..... 6 rds/min
Weight: ..... 5.6 kg (launcher)

The Chinese Type 69 AT grenade launcher is a near copy of the Russian RPG-7 system. It differs slightly in appearance from the RPG-7; it is slightly shorter; a carrying handle is attached to the top of the tube; the heat shield is grooved; there is only one pistol grip; a flip-down shoulder support is affixed, and a bipod is usually attached at the front end.

All performance aspects are identical to the RPG-7, and it can fire all ammo for the RPG-7 family.

Two Chinese optical sights are available: a copy of the standard 2.5xPGO-7 and the RS3B high angle-of-fire sight.

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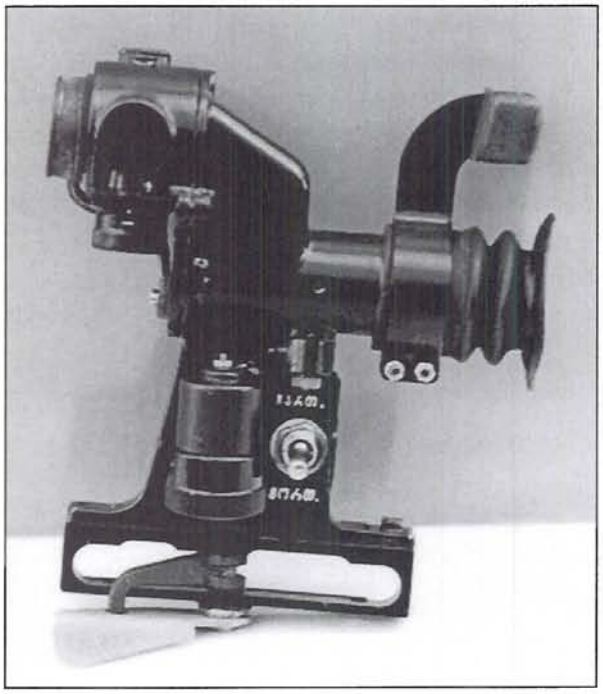

Figure 33. Georgian Delta SO-01

Country of origin: ..... Russia, China, & others
Magnification: .....2.5x–2.7x (depending on origin)
Field of view: ..... 13 degrees
Distance measuring range: ..... 200-500 m (PGO-7)
200-1000 m (Delta SO-01)

The RPG-7 can mount a PGO-7V stadia-line subtension-type, range-finding optical sight for day use. The PGO-7 and PGO-7V optical sights are marked with ranges from 200 to 500 meters at intervals of 100 meters. They have a 13° field of view with a 2.5x magnification and a range-finding stadia-type sight.

Other variations, such as the Georgian Delta SO-01 pictured above, have slight differences in magnification and ranges indexed in the optic. Not all PGO-7 variants are interchangeable among all RPG-7's. For example the Chinese and Russian PGO-7's are not interchangeable on each other's RPG-7's.

1PN58 Night Sight

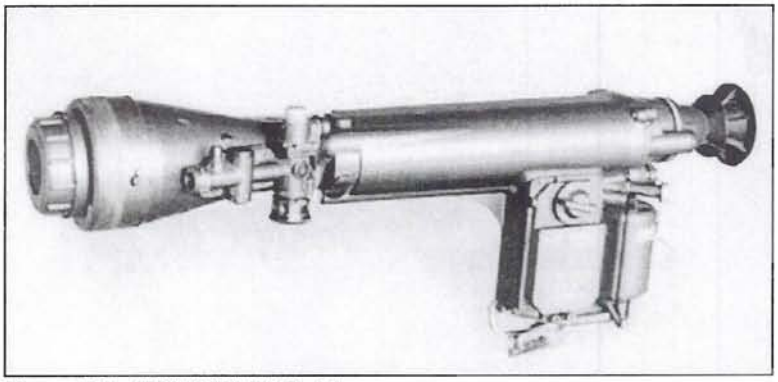

Figure 34. 1PN58 Night Sight

Country of origin: ..... Russia
Magnification: 3.5x
Field of view: ..... 5 degrees
Recognition range: ..... 400 m (soldier); 700 m (tank)
Weight: ..... 2 kg

The 1PN58 night sight is available in Iraq.

The 1PN58 is a first-generation, night-sight device, which can be mounted on five different types of weapons to include the AK-74, AKM, SVD, RPK, and the PKM.

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The effective range of utilizing this system as a aiming device is <200 meters. Effectiveness largely depends on illumination, cloud cover, etc.

RPG-16 "UDAR"

Figure 35. RPG-16 Udar

Figure 36. PG-16 Round

Launcher caliber: ..... 58 mm
Warhead diameter: ..... 58 mm
Launcher length: ..... 1104 mm (in action); 645 mm (carry)
Max effective range: ..... 520 m (moving), 800 m (stationary)
Armor penetration: ..... 300 mm RHA
Operation: ..... Electrically fired
Max rate of fire: ..... 6 rds/min
Weight: ..... 9.4 kg (launcher); 3 kg (rocket) 10.3 kg (launcher w/PGO-16)

The RPG-16 Udar (Blow) is available in Iraq.

It was developed for the Russian airborne. It is similar in appearance to the RPG-7; however, they are completely different weapon systems. It is a two-piece unit joined for firing; the rocket is electrically fired (not percussion as in the RPG-7), and it has a much higher muzzle velocity—and thus a greater effective range than the RPG-7.

The RPG-16 has only one pistol grip, containing the trigger and current generator. The weapon can be fitted with the PGO-16 optical sight and has flip-up iron sights as well. A detachable folding bipod can be fitted to the front end of the launcher.

RPG-16 fires only one type of round, the PG-16, which is a 58-mm diameter unitary AT munition.

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RPG-18 "Mukha"

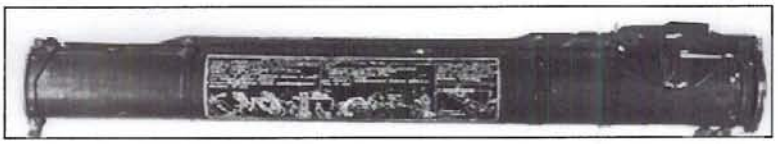

Figure 37. RPG-18 Mukha

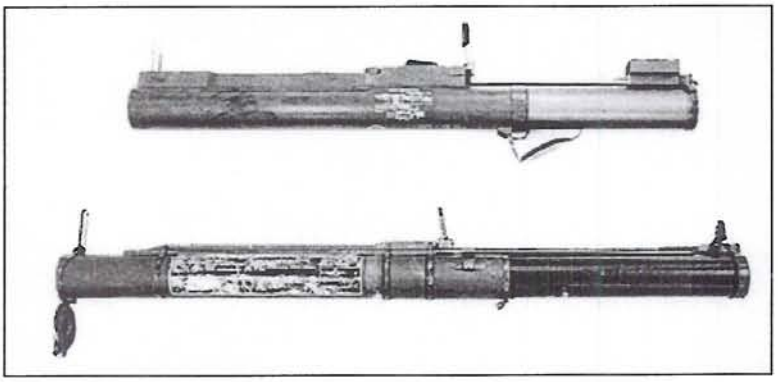

Figure 38. U.S. M72 LAW (Top) RPG-18 Extended Configuration (Bottom)

Country of origin: ..... Russia & Fmr East Germany
Launcher caliber: ..... 64 mm
Warhead type: ..... Unitary HEAT (shaped charge)
Warhead diameter: ..... 64 mm
Launcher length: .....705 mm (collapsed); 1050 mm (extended)
Max effective range: .....200 m (stationary/moving)

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Armor penetration: .....300 mm RHA
Operation: ..... One-shot disposable
Weight: ..... 2.6 kg (overall) 1.4 kg (rocket)

The RPG-18 Mukha (fly), pictured first in carry configuration, is widely available in Iraq.

The RPG-18 is a one-shot disposable launcher similar to the U.S. M72 LAW–pictured right are the extended configurations of the RPG-18 (bottom) and the U.S. M72 LAW (top) for comparison.

The RPG-18 telescopes and the two halves are held together with a bayonet catch, which has to be rotated to release the halves. The launcher is extended before firing. Once extended, the launcher cannot be collapsed if not fired as in the U.S. M72 LAW. The firing mechanism is mechanical and not unlike that on the U.S. M72 series. The sights are simple pop-up frames, made of plastic and graduated for ranges of 200, 250, and 300 meters. There is also a stepped cutout slot, which acts as a rudimentary rangefinder. An average length tank will fit inside one step of the slot at the three ranges noted above.

Each launcher carries a series of drawings showing the firer how to use it. One of the training instructions warns that the venturi should not be within 2 meters of a wall or similar solid obstruction.

RPG-22 "Neto"

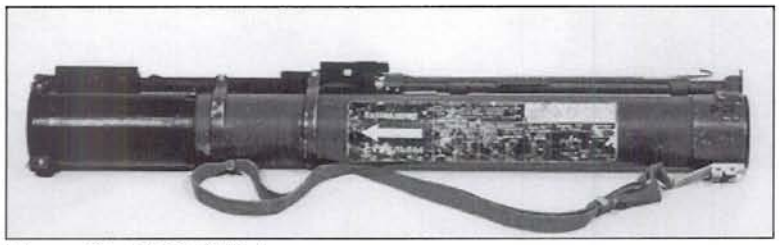

Figure 39. RPG-22 Neto

Country of origin: .....Russia & Bulgaria
Launcher caliber: ..... 72 mm
Warhead type: ..... Unitary HEAT (shaped charge)
Warhead diameter: ..... 72 mm
Launcher length: .....775 mm (collapsed); 850 mm (extended)
Max effective range: ..... 250 m
Armor penetration: .....400 mm RHA
Operation: ..... One-shot disposable
Weight: ..... 2.7 kg (overall) 1.4 kg (rocket)

The RPG-22 Neto (net) is available in Iraq.

The RPG-22 is a one-shot disposable launcher, designed as an improved follow-on to the RPG-18. The diameter of the warhead is 72.5 mm, and armor penetration has been increased to 400 mm. Unlike the RPG-18, there is no outer tube—only a sliding extension, which increases the length of the launcher by less than 100 mm in the firing configuration.

Operationally it is identical to the RPG-18. Once the tube is extended, the front and rear sights pop up, allowing aimed fire out to 250 meters.

The warhead self-destructs 3.5 to 6.5 seconds into flight.

TYPE 70-1

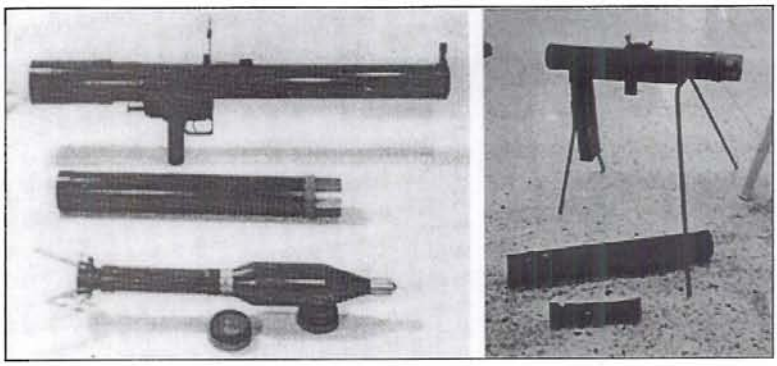

Figure 40. Type 70-1 ***(Captured in Iraq)***

Country of origin: ..... China
Launcher caliber: ..... 62 mm
Warhead type: ..... Unitary HEAT (shaped charge)
Warhead diameter: ..... 62 mm
Launcher length: ..... 1200 mm
Rocket length: ..... 554 mm
Max effective range: ..... 150 m (stationary & moving)
Armor penetration: ..... 100 mm RHA/65 degrees, 250 mm RHA
Operation: ..... Electrically fired

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Max rate of fire: ..... 6 rds/min
Weight: ..... 3.21 kg (loaded); 1.18 kg (round)

The Type 70-1 is in use in Iraq.

The Chinese Type 70-1 is a semi-disposable, two-part, antitank rocket launcher. The front section is reusable and consists of the barrel, pistol grip, current generator, and flip-up iron sights. The round is housed in a separate tube, which is clipped to the launcher directly behind the pistol grip. The rear part of the tube is removed and discarded after firing. The rocket is electrically actuated (like the RPG-16) versus percussion.

Several expended rocket tubes, which had held the rocket, have been found in Iraq. The photo on the right is of a captured Type 70-1 found in Iraq, which had failed to detonate. This launcher was set up on a homemade stand to act as a side attack weapon in a IED-style type of remote attack. A thin cable was strung across a road to remote fire the weapon as a vehicle passed.

Armbrust

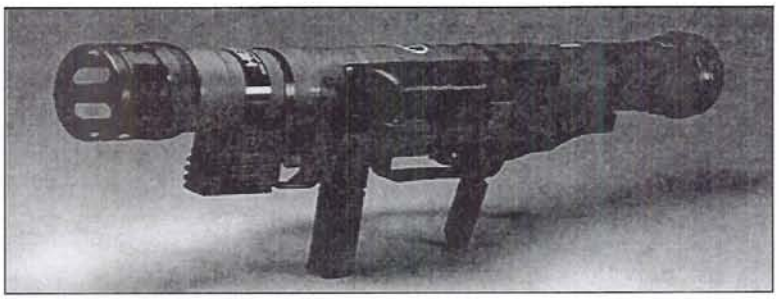

Figure 41. Armbrust

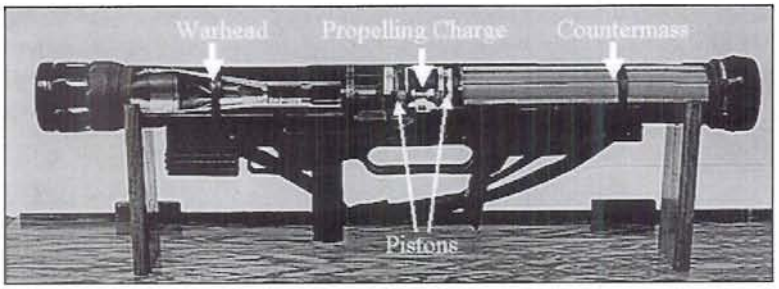

Figure 42. Armbrust With Callouts

Country of origin: .....Germany & Singapore
Launcher caliber: ..... 75 mm
Warhead type: ..... Unitary HEAT (shaped charge)
Warhead diameter: ..... 67 mm
Length: .....850 mm (launcher); 405 mm (rocket)

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Max effective range: ..... 300 m
Operation: ..... One-shot disposable
Armor penetration: .....300 mm RHA
Weight: ..... 6.3 kg; 1 kg (round)

The Armbrust is found in small numbers in Iraq. It is widely proliferated all over the world, but usually in ones and twos.

The Armbrust is unique in its design:

- The warhead is very aerodynamically designed, does not possess stabilizing fins, and has 300-meter max range (warhead loses accuracy very fast beyond its max range.)
- The propellant charge is located in the center of the weapon between two pistons. The rear of the weapon is a fiber (almost like cardboard) substance countermass.
- When the weapon is fired, the propellant pushes the two pistons to either end of the launch tube, trapping all the propellant gases (this is what causes the low firing signature). The countermass is pushed out the back of the weapon.

It has no firing signature, emits neither smoke nor blast from the muzzle nor flash from the rear, is quieter than a pistol shot, can be fired from small enclosures or roofed foxholes without danger or discomfort to the firer, and has no recoil.

RPG-75

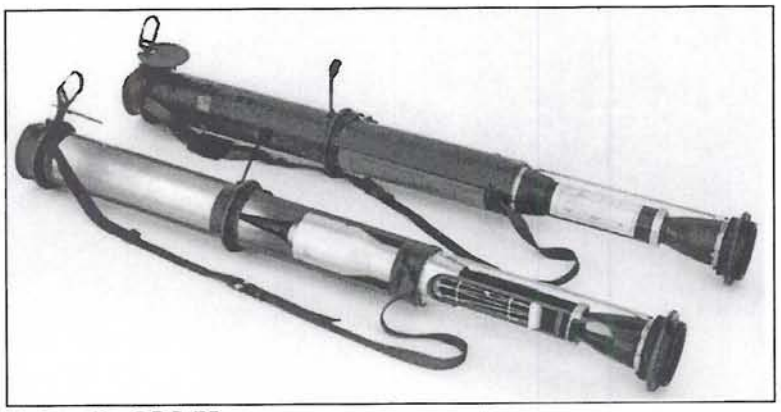

Figure 43. RPG-75

Country of origin: ..... Czechoslovakia
Launcher caliber: ..... 72 mm
Warhead type: ..... Unitary HEAT (shaped charge)
Warhead diameter: ..... 67 mm
Length: ..... 890 mm (extended); 630 mm (folded)
Max effective range: ..... 300 m (stationary), 200 m (moving)
Operation: ..... One-shot disposable
Armor penetration: ..... >300 mm RHA
Weight: ..... 3.2 kg (w/ round)

The RPG-75 is found in very small numbers in Iraq.

The RPG-75 is a low-cost, one-shot, disposable, antiarmor Czech variant of RPG-18; however, the rear portion has a bell-shaped

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venturi similar to the RPG-7. The round fired is unusual in that it has no fins or other apparent stabilization. Sights are pop-up peep type with range graduations of 200, 250, and 300 meters. No night sights are available.

LAW-80

Figure 44. LAW-80 (Shown in Firing Configuration)

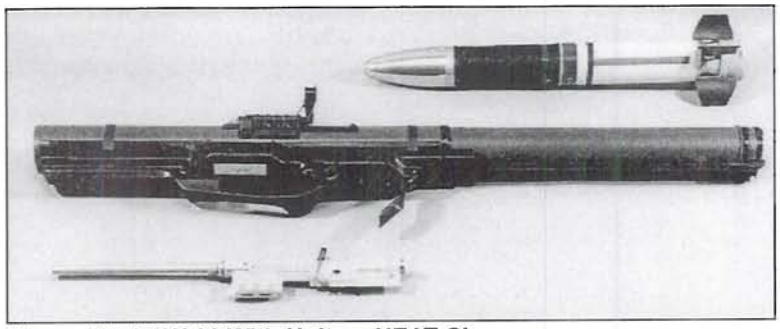

Figure 45. LAW-80 With Unitary HEAT Charge

Country of origin: ..... Britain
Launcher caliber: ..... 94 mm
Warhead type: ..... Unitary HEAT (shaped charge)
Warhead diameter: ..... 94 mm
Length: ..... 1500 mm (extended); 1000 mm (folded)
Max effective range: ..... 500 m (stationary), 250 m (moving)
Operation: ..... One-shot disposable
Warhead arming range: ..... 10-20 m
Armor penetration: ..... >700 mm RHA
Weight: ..... 10 kg (carry); 9 kg (fire conf); 4.6 kg (rd)

Previously known to be in Iraq. No reports of LAW-80's since start of OIF. Likely to be in Iraq in very small numbers. It is available in other Middle Eastern countries, and it is possible that additional weapons may make their way into theater.

The LAW 80 is a low-cost, one-shot, disposable antiarmor weapon. It is the only shoulder-fired system that incorporates a

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spotting rifle that fires a 9-mm bullet ballistically matched to the main warhead.

SPG-9 "Kopye" Recoilless Rifle

Figure 46. SPG-9 Kopye

Country of origin: ..... Russia, Bulgaria, Iran, & others
Launcher caliber: ..... 73 mm
Warhead type: ..... PG-9 (HEAT) & OG-9 (Fragmentation)
Warhead diameter: ..... 73 mm
Length: .....2110 mm
Max effective range: ..... 500 m (moving), 1300 m (stationary), 4500 m (area)

Rate of fire: ..... 3-6 rds per minute
Armor penetration: 300-400
Weight: ..... 12 kg (w/ tripod); 16 kg (w/ trailer); 50 kg (w/mount); 3.5 kg (rd)

The SPG-9 Kopye (spear) is available in large numbers in Iraq. However, it has not been widely used due to its lack of maneuverability (size/weight) and the attention that its firing signature attracts. Expect this weapon to be used in insurgent safe areas such as Al-Fallujia or Najaf.

The SPG-9 is a lightweight antitank gun, normally carried by two soldiers, manned by four, and mounted on a tripod for firing. It can be towed using a small two-wheel carriage and may be mounted on vehicles.

The SPG-9 fires a fin-stabilized round with either a PG-9 HEAT or OG-9 HE (fragmentation) warhead.

The PGO-9M optical sight is provided for direct fire. A PGO-K9 optical sight and the PGN-9 night sight (not known to be in Iraq) are available.

Improvised Launchers

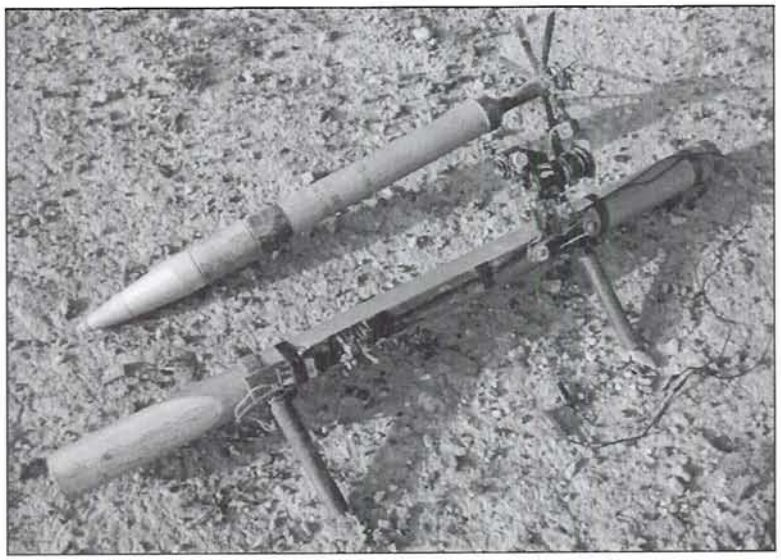

Figure 47. Example a 57-mm Improvised Launcher

Caliber: ..... 57 mm
Length: ..... Varies
Max. range: ..... > 7 km
Weight: ..... Varies
Max. rate of fire: ..... Varies
Initial velocity: ..... Unk
Max. velocity: ..... 530 m/s

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The Iraqi insurgents have produced a number of different improvised launchers for the 57-mm, air-to-ground S-5 rocket.

Sights vary from primitive post and notch to attached PGO-7 optical sights. Initiation is by switch and a 9 V battery. While very simple, it gives the insurgents a long standoff capability.

At least one helicopter has been struck while in flight by a 57-mm rocket.

The warheads are generally HE-Frag.

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RPG-7 Ammunition

The primary round available in Iraq and in use is the unitary (single warhead), high-explosive, antitank (HEAT) round. Also available in more limited numbers are antipersonnel (APERS) rounds in both a high explosive (HE) and HE fragmentation versions.

Currently tandem HEAT warheads and volumetric/thermobaric warheads are not currently believed to be in Iraq. Additional PG-7 warheads in service, though not believed to be in Iraq, are illumination, incendiary, smoke, and bunker-buster rounds.

All PG-7 rockets are percussion primed. Most rockets have a booster charge to expel the rocket from the launcher and a rocket motor to accelerate the rocket to its maximum velocity. A few of the fragmentation rounds are launched using only the booster charge, thus reducing their accuracy and range.

All PG-7 warheads have an arming range of 3-15 meters.

Unitary Heat Warheads

All unitary HEAT warheads listed above are in Iraq. The most common to date are the PG-7 & the PG-7M. Significant numbers of NADERs are also being encountered.

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All unitary HEAT warheads listed above have a self-destruct time device of 2.5 to 4 seconds, which generally equates to about 1000 meters. (The NADER is an exception.)

The warhead of PG-7 is simplicity at is finest. It has been refined over the years to produce better performance in accuracy and terminal ballistics, yet its major components are relatively unchanged. The impact of the warhead against a target causes the piezo-electric crystal (in the tip) to produce an electric pulse. This pulse of over 1000 volts initiates the detonator followed by the main explosive charge. This explosion crushes the hollow copper cone and forms a high-speed jet 2 mm in diameter; the tip of which is moving at 8-10 km/s. This jet is what penetrates the armor of an armored vehicle. The earliest PG-7 could perforate more than 260 mm of armor steel. Newer warheads can do more than double that.

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Modified Unitary HEAT Warheads

Iraqi insurgents have developed a countermeasure to defeat the magnetic force field armor on our armored vehicles. It consists of plastic, tape, or rubber wrapped around the ogive to shield the warhead. Effectiveness varies; the more shielding material wrapped around the warhead, the better the counter-measures effectiveness. See examples in the pictures below.

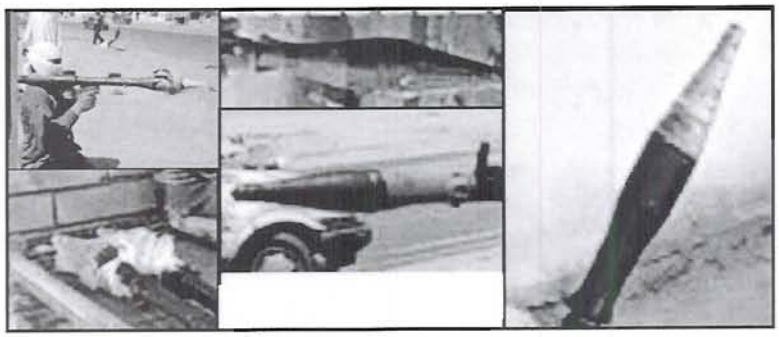

Figure 48. Modified Unitary HEAT Warheads

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The first four, (PG-7, PG-M, PG-7S, PG-7L), trace their ancestry to the USSR, but the NADER was actually designed by a W. German firm for the Shah of Iran and is still produced by Iran. It is unique in its warhead and fuzing design. The NADER does not possess a piezo-electric crystal. The electric pulse is initiated instead when the cone of the warhead is crushed. NADERs are of generally very poor quality.

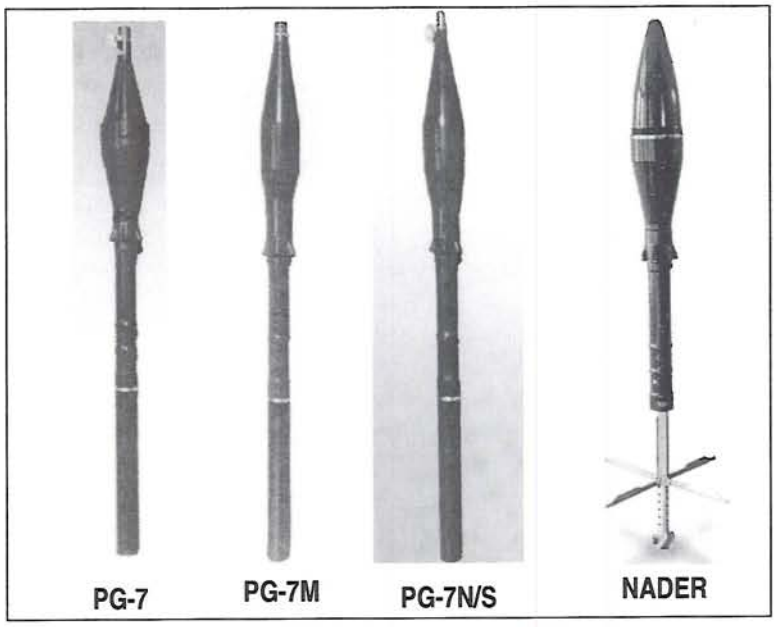

Figure 49. PG-7, PG-M, PG-7S, PG-7L, and NADER

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Table 2. HEAT Warheads Identification

	Country of Origin	Warhead Diameter	Armor Penetration	Max Eff. Range	Self-Dest. Range
PG-7	Var. Countries	85 mm	260 mm	500 m – x 300 m – y	1000 m/ 2.5-4 sec
PG-7M	Var. Countries	70 mm	300 mm	500 m – x 300 m – y	1000 m/ 2.5-4 sec
PG-7N	N-Bulgaria	73 mm	400 mm	500 m – x 300 m – y	1000 m/ 2.5-4 sec
PG-7S	S-Russia	73 mm	400 mm	500 m – x 300 m – y	1000 m/ 2.5-4 sec
NADER	Iran	80 mm	300 mm	500 m – x 300 m – y	N/A
X – Stationary target Y – Moving target N/A – No self destruct					

PG-7

The PG-7 is an 85-mm diameter rocket fired from the RPG-7 family of launchers. The warhead is a unitary shaped charge and will penetrate around 260 mm of armor steel. The nose cone is fluted. A propelling charge wrapped around the fins launches the rocket from the tube. At 15 meters from the muzzle, the rocket motor ignites, accelerating the rocket to its maximum velocity

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within 100 meters. It has a length of 920 mm with the propellant charge and a weight of 2.2 kg. Many thousands are found in Iraq.

PG-7M

The PG-7M is a 70-mm diameter rocket fired from the RPG-7 family of launchers. The warhead is a unitary shaped charge and will penetrate around 300 mm of armor steel. The nose cone is smooth. A propelling charge wrapped around the fins launches the rocket from the tube. At 15 meters from the muzzle, the rocket motor ignites, accelerating the rocket to its maximum velocity within 100 meters. It has a length of 950 mm with the propellant charge and a weight of 2.0 kg. Many thousands are found in Iraq.

PG-7N

The PG-7N & PG-7S are 72-mm diameter rockets fired from the RPG-7 family of launchers. The PG-7N is produced in Bulgaria, and the PG-7S is produced in Russia. The warhead is a unitary shaped charge and will penetrate around 400 mm of armor steel. The nose cone is smooth. A propelling charge wrapped around the fins launches the rocket from the tube. At 15 meters from the muzzle, the rocket motor ignites, accelerating the rocket to its maximum velocity within 100 meters. It has a length of 965 mm

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with the propellant charge and a weight of 2.0 kg. Many thousands are found in Iraq.

NADER

The NADER is a 80-mm diameter rocket fired from the RPG-7 family of launchers. It is produced in Iran. The warhead is a unitary shaped charge and will penetrate up to 300 mm of armor steel. It is unique in its warhead and fuzing design. The NADER does not possess a piezo-electric crystal. The electric pulse is instead initiated when the cone of the warhead is crushed. NADERs are of generally very poor quality. Many thousands are found in Iraq.

Antipersonnel (APERS) Warheads

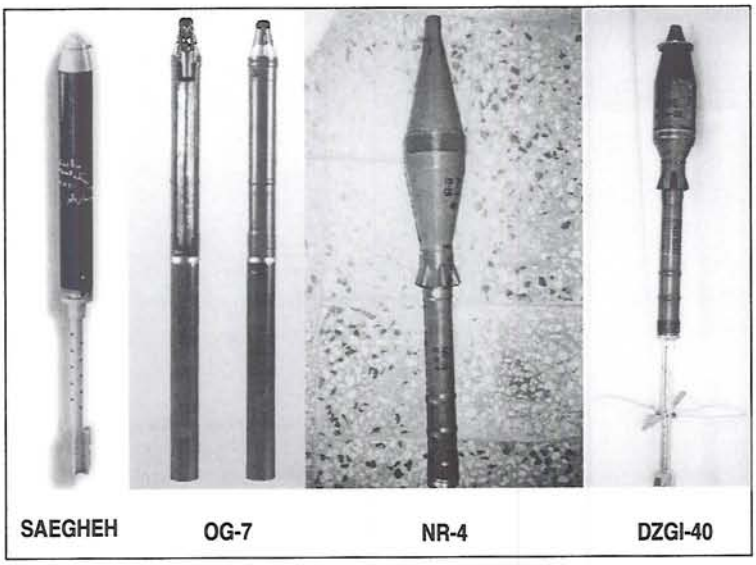

Figure 50. Antipersonnel Warheads

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Table 3. APERS Warheads Identification

	Country of Origin	Warhead Diameter	Type	Max Eff. Range
Saegheh	Iran	40 mm	Frag	200 m – D 1000 m – I
OG-7	Bulgaria	40 mm	Frag	170 m – D 1000 m – I
NR-4	N. Korea	85 mm	HE-Frag	200 m – D 1000 m – I
DZGI-40	China	75 mm	Bounding Frag	75-1700 m
D – Direct fire I – Indirect fire				

All APERS warheads listed above are in Iraq. The most common to date are the OG-7 & the DZGI-40.

None of the APERS warheads listed above have a self-destruct range or time device. All are point detonating.

None of the APERS warheads listed have armor penetration.

The OG-7 does not possess a rocket motor. All propulsion comes from the rocket booster alone. This warhead is just barely visible when placed inside an RPG-7.

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OG-7

The OG-7 is a 40-mm diameter projectile fired from the RPG-7 family of launchers. It is produced in Russia and Bulgaria. It is a high explosive fragmentation round. A propelling charge wrapped around the fins launches the rocket from the tube. There is no rocket motor. Many thousands are found in Iraq.

NR-4

The NR-4 fragmentation munition is an 85-mm diameter projectile fired from the RPG-7 family of launchers. It is produced in North Korea. It is a high explosive fragmentation round. A propelling charge wrapped around the fins launches the rocket from the tube. On impact, the warhead detonates, showering the area with ball-bearing shrapnel. Lethal radius is greater than 15 meters. A red band is usually painted around the thickest part of the warhead. A small, but unknown quantity, are known to be in Iraq.

DZGI

The DZGI bounding fragmentation munition is a 75-mm diameter projectile fired from the RPG-7 family of launchers. It is produced in China. It is a high explosive fragmentation round. A

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propelling charge wrapped around the fins launches the rocket from the tube. On impact, a small charge in the nose detonates, throwing the warhead 2 meters into the air at which point the main warhead detonates. The warhead contains 800+, 6-mm diameter, steel, ball bearings. Lethal radius is greater than 15 meters. Many thousands are found in Iraq.

Modified Warheads

Figure 51. 82-mm Mortar Warhead

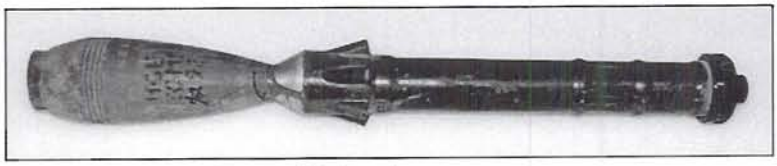

Figure 52. 60-mm Mortar Warhead

Country of origin: ..... Iraq
Caliber: ..... 60 & 82 mm
Max eff. range: ..... >1000 m
Length: ..... UNK
Weight: ..... UNK

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The Iraqis produced two variants of mortars-on-a-stick by attaching 82-mm (pictured top) and 60-mm (pictured bottom) mortar warheads to PG-7 rockets.

These are generally used in the indirect-fire mode. They are relatively short range when compared to their mortar counterparts. They are useful for close-range, high-angle, harassing fire.

Terminal effects are the same as the basic 60- and 82-mm mortar rounds.

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Small-Arms Ammunition

A wide range of small-arms ammunition is available in Iraq. Most small arms calibers can be found in some limited number, and there are large stockpiles of 7.62x39- and 7.62x54R-mm rounds. The primary weapons used by Iraqi armed forces before the start of OIF were the AK (and variant) series. There were some weapons chambered for the 7.62x51 mm (NATO) and corresponding amounts of ammunition in the inventory. The insurgency has adopted all of the available weapons and thus the ammunition as well.

Ball rounds make up the majority of the ammunition in Iraq to date. There are armor piercing (AP) rounds available to insurgents. AP rounds have a denser core material, usually steel, but tungsten is also used, and they have different capabilities depending on the caliber. The Iraqi heavy machinegun was a Soviet model, and the corresponding ammunition is the 12.7x108-mm round, of which AP is the standard round (unlike Western .50 cal, in which there is a ball version).

Discovery of caches or use of AP ammunition by the insurgency needs to be reported up through the chain of command. Pictured below are a 7.62x54R-mm AP (top) and 7.62x39-mm AP (bottom).

Figure 53. 7.62x54R-mm AP Round (top) 7.62x39-mm AP Round (bottom)

7.62x39-mm Ball

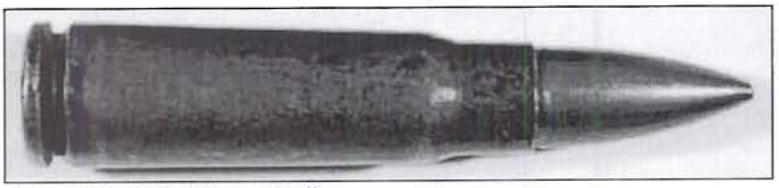

Figure 54. 7.62x39-mm Ball

Country of origin: ....China, Czechoslovakia, Hungary, Iran, North Korea, Romania, Russia, & Yugoslavia

Caliber: ..... 7.62 mm
Length: ..... 39 mm
Core: ..... Lead & steel (PS); steel (subsonic)
Jacket: ..... FMJ (PS); GMCS (subsonic)
Muzzle velocity: ..... 700-785 m/s (PS); 295-310 m/s (subsonic)
Weight: ..... 7.75-8.1 g (PS); 12.5-12.99 g (subsonic)

PS: "Type" in Soviet 7.62x39-mm design—standard ball round.

Subsonic: Special purpose round meant to be used with a suppressor.

FMJ: Full metal jacket.

GMCS: Gilding metal clad steel (jacket alloy).

This round is in Iraq.

Weapons in Iraq that fire the 7.62x39-mm round: AK-47, AKM, Type 56, Tabuk, Tabuk Sniper, RPK, and the RPD.

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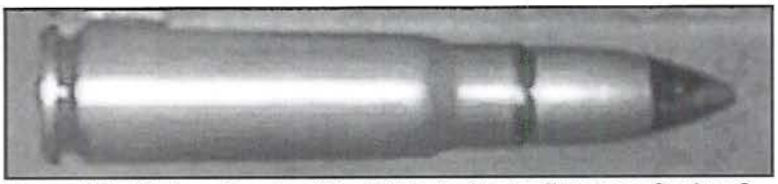

Figure 55. Modern Version (Red Strip is Sealer Between Casing & Bullet)

7.62x39-mm Antipersonnel Round

Figure 56. Early Version With Red Band

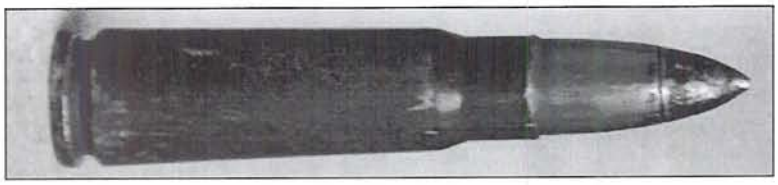

Figure 57. Eastern Block/Fmr WP AP With Black Tip

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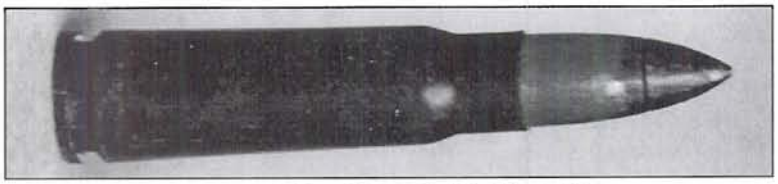

Figure 58. Eastern Block/Fmr WP AP With Black Tip

Country of origin: ..... Bosnia, China, Egypt, Finland, Romania, Russia, and Serbia
Caliber: ..... 7.62 mm
Length: ..... 39 mm
Core: ..... Steel and/or incendiary pellet
Jacket: ..... FMJ, GMCS, or steel
Muzzle velocity: ..... 725-740 m/s
Weight: ..... 7.5-7.9 g
Armor Penetration: ..... 7mm steel@200 m

FMJ: Full metal jacket

GMCS: Gilding metal clad steel (jacket alloy)

This round is in Iraq in limited numbers. It was in the pre-OIF Iraq inventory.

Quick visual identification features: All known eastern block/fmr Warsaw Pact APs have a black tip. Earlier versions may have a red band or stripe (as shown). Four types of 7.62x39-mm AP shown above.

Weapons in Iraq that fire the 7.62x39-mm round: AK-47, AKM, Type 56, Tabuk, Tabuk Sniper, RPK, and the RPD.

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7.62x51-mm Ball

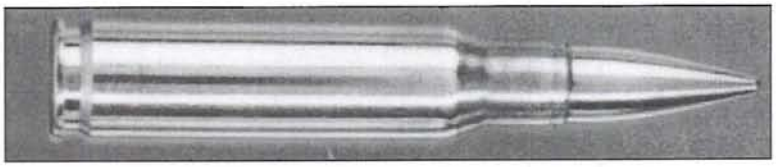

Figure 59. 7.62x51-mm Ball

Country of origin: ..... NATO countries and others
Caliber: ..... 7.62 mm
Length: ..... 51 mm
Core: ..... Lead, lead+steel, and steel
Jacket: .....FMJ, GMCS, SLAP, JSP, or JHP
Muzzle velocity: ..... 770-925 m/s (ball), 730-860 m/s (match)
Weight: ..... 8-12 g (Ball), 9.3-12.3 g (match)

Ball—Standard round in the assault rifles and machineguns

Match—Standard round used in sniper rifles.

FMJ—Full metal jacket.

GMC—Gilding metal clad steel (jacket alloy)

SLAP—Sabot light armor penetrators.

JSP—Jacketed soft point (commercially available).

JHP—Jacketed Hollow Point —commercially available

This round is in Iraq. It is the standard NATO 7.62-mm round.

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Weapons in Iraq that fire the 7.62x51-mm round are: FN FAL, G3, MAG-58/M240, M-60, M14, M21 sniper rifle, M24 sniper rifle, and various hunting and sniper rifles.

7.62x51 Armor-Piercing and Armor-Piercing Incendiary Rounds

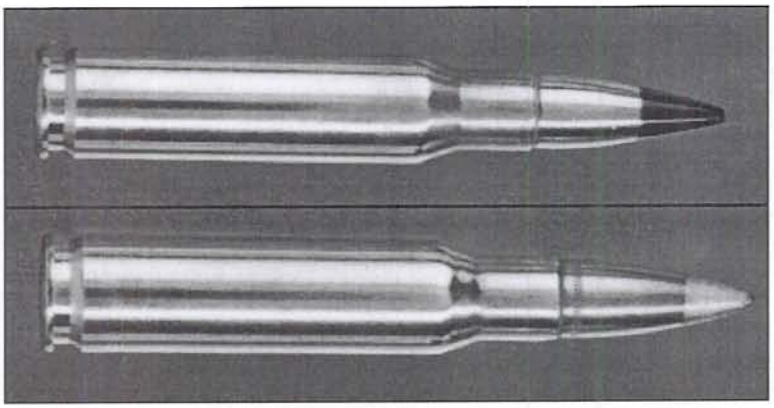

Figure 60. Armor-Piercing Round With Black Tip (top); Armor-Piercing Incendiary Round With Silver Tip (bottom)

Country of origin: ..... NATO countries and others
Caliber: ..... 7.62 mm
Length: ..... 51 mm
Core: ..... Steel, tungsten carbide, incendiary
Jacket: .....FMJ, FMJHC, GMCS, GMCS+tin
Muzzle velocity: ..... 780-970 m/s

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Weight: ..... 8.2-12.7 g

Armor Penetration: ..... 6 mm@100 m; 13 mm@300 m

FMJ—Full metal jacket.

FMJHC—Full metal jacket heavy core.

GMCS—Gilding metal clad steel (jacket alloy).

These rounds are not believed to be in insurgent hands in Iraq. Some Coalition forces may have limited quantities. This is the standard NATO 7.62-mm round

Weapons in Iraq that fire the 7.62x51-mm round are: FN FAL, G3, MAG-58/M240, M-60, M14, M21 sniper rifle, M24 sniper rifle, and various other hunting and sniper rifles.

7.62x54R-mm Ball

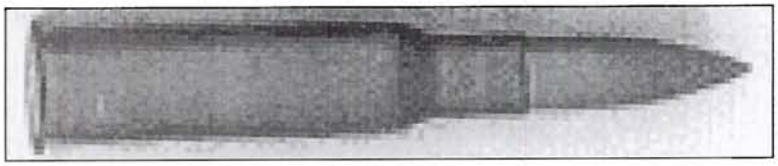

Figure 61. 7.62x54R-mm Ball

Country of origin: ..... Bulgaria, China, Czechoslovakia, Hungary, North Korea, Poland, Romania, Russia, and Yugoslavia

Caliber: ..... 7.62 mm

Length: ..... 54 mm

Core: ..... Lead, lead+steel, and steel

Jacket: ..... FMJ, JSP, GMCS, cupronickel
Muzzle velocity: ..... 780-890 m/s
Weight: ..... 8-12 g

FM—Full metal jacket.

JSP—Jacketed soft point (commercially available).

GMCS—Gilding metal clad steel (jacket alloy).

Cupronicke—Copper/nickel allow used in projectile jackets.

This round is in Iraq.

The "R" in the ammunition designation is because the casing is "rimmed." Rimmed cartridge casings have a rim, or extractor flange, that extends beyond the cartridge body.

Weapons in Iraq that fire the 7.62x54R-mm round are: PK-series general-purpose machineguns (PKM) and SVD-style sniper rifles.

7.62x54R-mm AP

Figure 62. 7.62x54R-mm AP

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Country of origin: ..... Bosnia, China, Romania, Russia, and Sweden
Caliber: ..... 7.62 mm
Length: ..... 54 mm
Core: ..... Steel, tungsten carbide, incendiary
Jacket: ..... FMJ and GMCS
Muzzle velocity: ..... 800-980 m/s
Weight: ..... 8.5-12.11 g
Armor penetration: .....Chinese B-30 (steel), 10 mm@700 m

FMJ—Full metal jacket.

GMCS—Gilding metal clad steel (jacket alloy).

This round is in Iraq.

The "R" in the ammunition designation is because the casing is "rimmed." Rimmed cartridge casings have a rim, or extractor flange, that extends beyond the cartridge body.

Weapons in Iraq that fire the 7.62x54R-mm round are: PK-series general-purpose machineguns (PKM) and SVD-style sniper rifles.

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12.7x108-mm AP

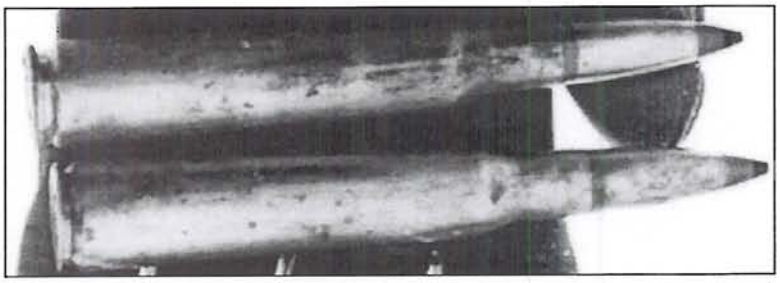

Figure 63. 12.7x108R-mm AP

Country of origin: ..... Russia, China. and others.
Caliber: ..... 12.7 mm
Length: ..... 108 mm
Core: ..... Steel and tungsten carbide
Jacket: ..... FMJ, GMCS, SLAP, JSP, or JHP
Muzzle velocity: ..... 800-860 m/s
Weight: ..... 43-62 g
Armor penetration: ..... 20 mm RHA at 100 m

FMJ—Full metal jacket.

GMCS—Gilding metal clad steel (jacket alloy).

SLAP—Sabot light armor penetrator.

JSP—Jacketed soft point (commercially available).

JHP—Jacketed hollow point (commercially available).

This round is in Iraq.

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Weapons in Iraq that fire the 12.7x108-mm round are: DShK heavy machinegun and several types of AMRs (Gepard M3)—if they should proliferate into theater.

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Weapons Not Confirmed to be in Theater

Sections 7-10

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Procedures to Follow When Previously Unconfirmed Weapons are Discovered in Theater

If any of the weapons listed below are found, send an immediate message up through your chain of command.

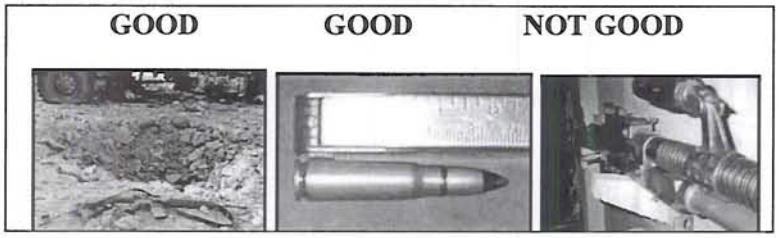
If possible, secure the system.

If you are in the chain of command, contact the NGIC LNO in theater and send a detailed email to the appropriate NGIC representative listed on the last page of this handbook. Include the following information: Who (soldiers that found system and on whom it was found); What (as much detail as you know); When and Where (city/town/neighborhood and grid), and digital photos.

If insurgents are captured, ensure that their information is included in the report. What is their EPW #? When and to whom did you hand them over? Someone will want to debrief them!

Ensure that all photos have an item of known size for scale (ruler, dollar, rifle, etc). Take photos from different angles and any markings. Digital photos of marking sometimes do not come out very well, so write/copy them down.

Shown below are some examples of photos (varying in usefulness) that have been received.



Sniper & Anti-Materiel Rifles (AMR) not Currently in IRAQ

AMRs are defined as any heavy-caliber, man-portable, shoulder-fired weapon up to 20 mm intended for use against soft-skinned targets, light armor, and/or aircraft. There are over 20 types of AMRs currently being produced. AMRs began to proliferate since the early 1990s and today can be found worldwide.

No AMRs have been confirmed to be currently in Iraq. Pre-war Iraq did attempt to purchase the South African NTW 20/14.5—delivery was never confirmed. Organizations such as al Qaida have made attempts to purchase AMRs such as the Barrett Model 82A1. Foreign fighters, such as the Chechens, have experience both using the OSV-96 and having them used against them. It is likely that an AMR will arrive in theater at some point.

The most important component in the effectiveness of the AMR is the trained operator. Training, practice, and experience are what make the AMR a dangerous combat multiplier. Without the

trained operator, the weapon is not effective past several hundred meters.

Type 79

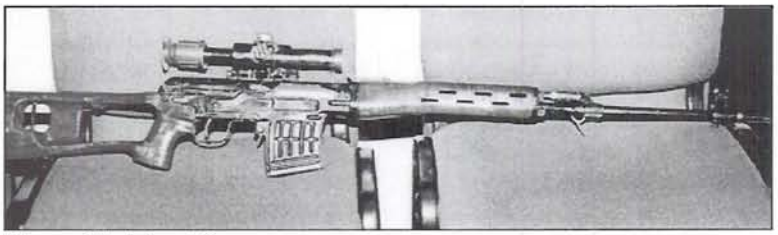


Figure 65. Type 79

Country of origin: ..... China
Caliber: ..... 7.62x54R mm
Max effective range: ..... 800-1000 m
Rate of fire: ..... 30-40 rpm
Operation: ..... Semi-auto
Overall length: ..... 1220 mm
Feed device: ..... 10-rd box magazine
Weight: ..... 3.8 kg (rifle only), 4.4 kg (PSO-1 & empty magazine)

This weapon is not known to be in Iraq; however, due to Chinese loose export regulations, it is a likely source for insurgents to acquire additional sniper weapons.

The Norinco (Chinese) Type 79 is a direct copy of the Soviet/ Russian Federation SVD Dragunov sniper rifle. It is equipped

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with a 4x magnification optical sight that is also a copy of the Soviet/Russian Federation PSO-1, of which early versions had the same ability to detect infra-red emissions.

OSV-96 (V-94)

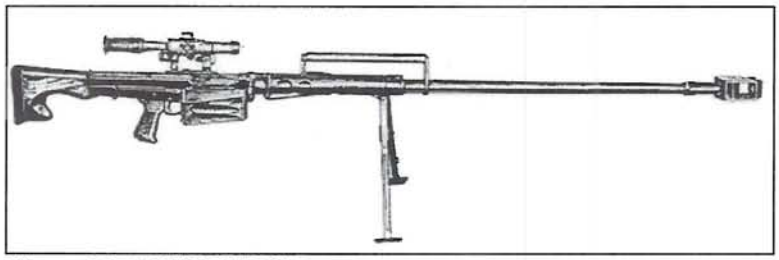

Figure 66. OSV-96 (V-94)

Country of origin: ..... Russia
Caliber: ..... 12.7x107 mm
Max effective range: ..... 1200 m (personnel); 1800 m (material)
Operation: ..... Semi-auto
Overall Length: ..... 1690 mm (firing); 1100 mm (carry)
Feed Device: ..... 5-rd box magazine
Weight: ..... 12.6 kg (Rifle Only —no sight)

This weapon is not known to be in Iraq; however, it has been used against and by Chechen rebels since 1995. Chechen rebels may at some point make their way into theater and bring a few AMRs with them. It is also possible that Russian poor accountability or export to a 3d party could result in their introduction to Iraq.

The OSV-96 and the V-94 differ mainly in the revised outline of the butt-stock and in their optical sights, which could be one of a range of modern types, including collimator sights. Some changes may be detected in the barrel shroud forward of the receiver. Russian listings make no differentiation between the rifles.

Reports from Chechnya, where the V-94 was used in action, mentioned that it was too large for the operational environment and for transport. The same reports also stated that the firing signature was too loud, while the recoil forces were such that it proved impossible to maintain the optical sight zero.

The OSV-96 has no iron sights, so it is provided with a compact optical sight. The V-94 has a suitably modified ×13 PSO-1 telescopic sight or a POS 12×50 optical sight. The sight is removed during moves. A special PKN-05 night sight has been developed to permit night engagements against targets up to 600 meters away.

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NTW 20/14.5

Figure 67. NTW 20/14.5

Country of origin: ..... South Africa
Caliber: ..... 20×83.5 mm & 14.5x114 mm
Max effective range: ..... >1300 m
Operation: ..... Semi-auto
Overall length: ..... 1795 mm (20-mm); 2015 mm (14.5-mm)
Feed device: ..... 3-rd box magazine
Weight: ..... 26 kg (20-mm); 29 kg (14.5-mm)

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This weapon has not been confirmed to be in Iraq; however, it may have been exported to Iraq pre-OIF in limited numbers (<25).

The NTW is a multi-caliber AMR that can shoot either 20- or 14.5-mm ammunition. The system comes with both barrels and all necessary parts to fire both calibers. Transitioning from one caliber to the other reportedly takes 30 seconds or less. The barrel, bolt, magazine, and sighting equipment can be interchanged between calibers as required. There are also credible indications that 12.7- and 23-mm versions have been produced.

The rifle itself is a bolt-action weapon, firing from a three-round magazine, which is attached on the left side of the receiver, unlike the normal bottom position.

Barrett Models 82A1 & 82A

Figure 68. Barrett Model 82A1

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Figure 69. Barrett Model 82A2

Country of origin: ..... United States
Caliber: ..... 12.7x99 mm
Max effective range: ..... 2000 m
Operation: ..... Semi-auto
Overall length: ..... 1448 mm (82A1); 1409 mm (82A2)
Feed device: ..... 10-rd box magazine
Weight: ..... 13.6 kg (82A1); 12.24 kg (82A2)

This weapon is not believed to be in Iraq; however, Barrett AMRs are widely available throughout the world. Additionally, the Chinese have copied the 82A1 and designated their version the Type JQ.

The Barrett was the first large-caliber sniper rifle to catch on in both military and civilian circles. There are several variations, but the most widely encountered rifle is the Model 81/82 series. Most of the Barrett rifles are semi-automatic (though bolt action is available), and feed from a 10-round magazine. The original M82A1 (pictured top) was a standard design, but the follow on M82A2 (pictured bottom) has a bull-pup layout with the barrel extending past the pistol grip and the magazine behind it. There is

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a removable muzzle-brake that reduces recoil up to 69%. The stock on the latest versions may be extendable.

This weapon can fire any NATO standard .50 cal round (12.7x99-mm); however, the Barrett Corporation recommends (to everyone who buys one) that shooters use the APEI (multi-purpose) cartridge.

Gepard M1A1

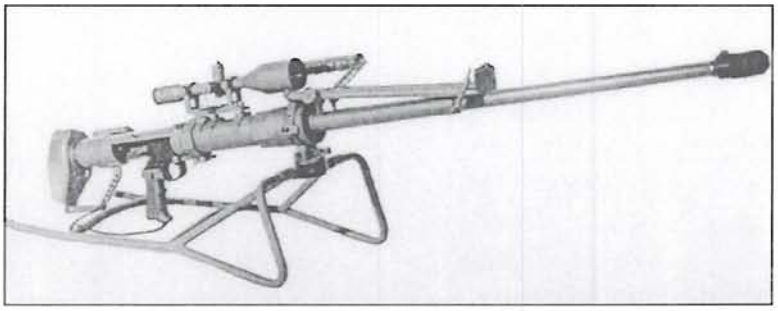

Figure 70. Gepard M1A1

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Figure 71. Gepard M1

Country of origin: .....Hungary
Caliber: ..... 12.7x07 mm
Max effective range: .....1200 m (personnel), 2000 m (materiel)
Operation: ..... Bolt-action
Overall length: ..... 1570 mm
Feed device: .....Single manual load
Weight: ..... 19 kg (M1), 22 kg (M1A1)

This weapon is not believed to be in Iraq; however, the Hungarians do offer it for export.

The single-shot Gepard M1 Rifle (pictured right) on the outside is reminiscent of antitank rifles of World War II. The folding bipod is located at the center of gravity of the weapon, and the receiver is equipped with a soft pad shock absorber. The muzzle-brake of the M1 absorbs 55% of the recoil energy. It is manually loaded by removing the entire pistol grip, which acts as the bolt lever.

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The Gepard M1A1 (pictured left) is the same rifle equipped with a backpack style frame, which also provides a stable firing platform.

The M1 can penetrate 15-mm RHA at 600 meters and 30-mm RHA at 100 meters when firing AP ammunition.

Gepard M3

Figure 72. Gepard M3

Country of origin: ..... Hungary
Caliber: ..... 14.5x114 mm
Max effective range: ..... 1000 m
Operation: ..... Semi-automatic
Overall length: ..... 1880 mm
Feed device: ..... 5- & 10-rd box magazine
Weight: ..... 21 kg

This weapon is not believed to be in Iraq; however, the Hungarians do offer it for export.

The Gepard M3 AMR, also known as the "Destroyer," is a self-loading, bipod-mounted weapon designed to provide accurate, heavy-caliber fire for the engagement of lightly armored vehicles, helicopters, field defenses, and targets at longer ranges.

It is recoil operated, and the design incorporates a hydraulic buffer and a highly efficient muzzle brake so that the felt recoil is about the same level as a heavy game rifle.

Using 14.5×114 mm B-32 AP-T ammunition, the M3 can penetrate 30 mm of homogeneous armor at 100 meters and 25 mm at 600 meters. There is also a tungsten-cored AP round in this caliber that can penetrate 42 mm RHA at 100 meters and 29 mm RHA at 500 meters.

Portable Rocket Launchers not Currently in IRAQ

The RPG-26, RPG-27, RPG-29, RPO-A portable rocket launchers have not been confirmed to be currently in Iraq. However, they are to some degree widely exported. RPG-29's and RPO-A's are believed to be in several Middle Eastern countries, to include Syria and Iran. All are available in Chechnya. Organizations such as al Qaida have made attempts to purchase the above listed weapons. It is likely that the above systems will arrive in theater in small numbers at some point.

RPG-26 "Aglen"

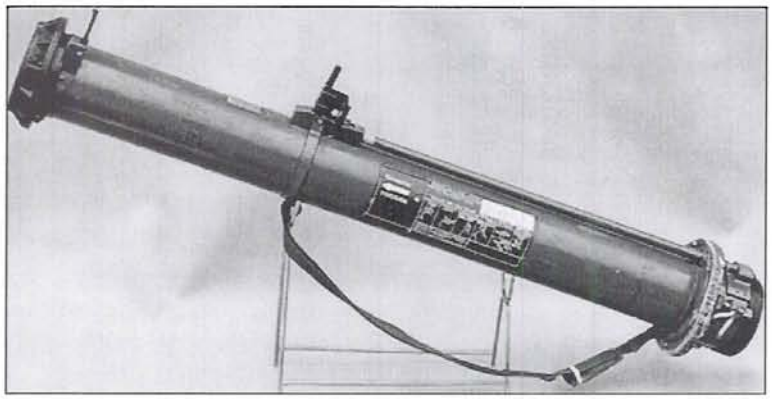

Figure 62. RPG-26 Aglen in Firing Configuration

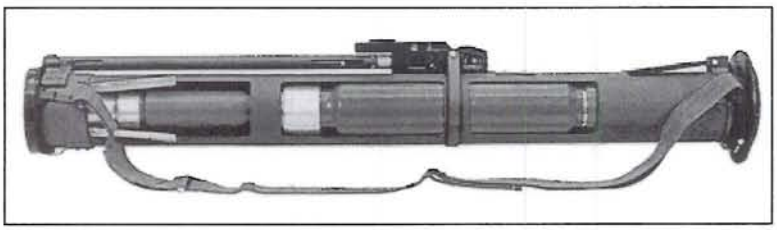

Figure 63. RSHG-2

Country of origin: ..... Russia
Launcher caliber: ..... 72.5 mm
Warhead type: ..... Unitary HEAT (shaped charge)
Warhead diameter: ..... 72 mm
Launcher length: ..... 770 mm
Arming range: ..... 15 m
Max effective range: ..... 250 m
Armor penetration: .....440 mm RHA
Operation: ..... One-shot disposable
Weight: ..... 2.9 kg

There has been one unconfirmed report of an RPG-26 Aglen recovered in Iraq by Coalition forces.

The RPG-26 is a single use, disposable, antitank, rocket launcher fielded as a replacement for the RPG-22. Unlike the RPG-22 and RPG-18, the RPG-26 launcher is comprised of a single tube, which does not need to be extended to fire. It has an increased muzzle velocity over the RPG-18 & RPG-22 due to an improved motor and propellant.

Firing the RPG-26 is extremely simple; flip up the sights, aim, and fire. Unlike the RPG-22 and RPG-18, the front and rear

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covers do not have to be removed to fire the rocket. The RPG-26 can be returned to the carrying configuration if it is not fired. Aiming posts for 50, 150, and 250 meters are provided on the foresight. No provisions for mounting an optical or night sight have been noted.

There is also a thermobaric warhead version of the RPG-26, known as the RShG-2; the thermobaric version is not known to be in Iraq. This system weighs 3.5 kg complete and has a direct-fire range of 115 meters.

RPG-27 "Tavolga"

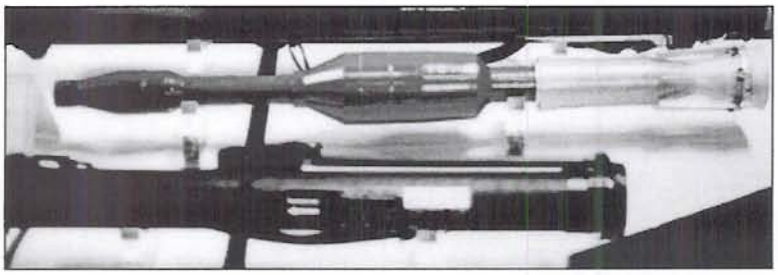

Figure 64. RPG-27 "Tavolga"

Country of origin: ..... Russia
Launcher caliber: ..... 105.5 mm
Warhead type: ..... Tandem HEAT (shaped charge)
Warhead diameter: .....65 mm (precursor), 105 mm (main)
Launcher length: .....1135 mm
Arming range: ..... 5 m

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Max effective range: ..... 200 m (stationary), 125 m (moving)
Armor penetration: ..... 750 mm RHA, after penetrating ERA
Operation: ..... One-shot disposable
Weight: ..... 8 kg

The RPG-27 "Tavolga" (meadow grass) is not known to be in Iraq.

The RPG-27 is a single-use, disposable, antitank rocket launcher similar in function to the RPG-26. It fires a 105-mm folding fin-stabilized rocket, which carries a tandem shaped charge warhead; this is the same warhead as the PG-7VR. The main warhead is of 105-mm caliber; in front of which a tubular nose extension carries a smaller shaped charge warhead intended to detonate explosive reactive armor.

There is also a thermobaric warhead version of the RPG-27, known as the RShG-1; the thermobaric version is also not known to be in Iraq. This system weighs 8 kg complete (includes 1.9 kg of thermobaric filling) and has a maximum effective range of 200 meters. This version is also a little longer in length (1155 mm) than the RPG-27. It is claimed that a single RShG-1 is effective against personnel sheltered in confined spaces of up to 300 m^3 or in open terrain within a radius of up to 10 meters.

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RPG-29 "Vampir"

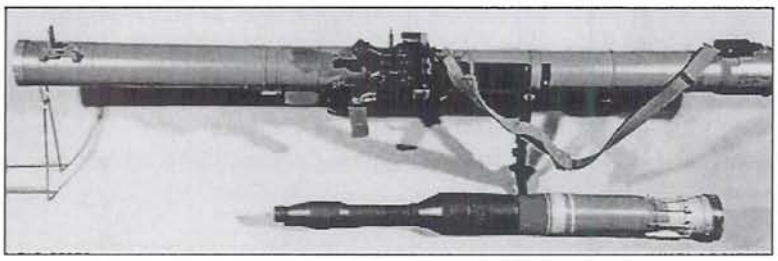

Figure 65. RPG-29 "Vampir"

Country of origin: ..... Russia
Launcher caliber: ..... 105.2 mm
Warhead type: ..... Tandem HEAT (shaped charge)
Warhead diameter: .....65 mm (precursor), 105 mm (main)
Launcher length: ..... 1000 mm
Arming range: ..... 5-15 m
Max effective range: ..... 500-800 m (stationary)
Armor penetration: .....750-820 mm RHA, after penetrating ERA
Operation: ..... Electrically fired
Weight: ..... 11.5 kg (launcher); 6.7 kg (round)

The RPG-29 "Vampir" (vampire) is not known to be in Iraq.

The RPG-29 is a multi-shot launcher, which is a long tube folded into two halves for carrying. It can be aimed through its iron sights or through attached optical and night sights. It is reported to have a service life of over 300 rounds.

The main innovation on this weapon is the round launched, the PG-29V. It has been suggested in some reports that this warhead is essentially similar to that used on the PG-7VR grenade fired by the RPG-7 portable rocket launcher series; however, it has been fitted with a more powerful rocket motor.

There is a ground mounting for the RPG-29. Provided with laser-based sights and a fire-control unit weighing 3 kg; this launcher/ mounting combination can be used to engage armored targets out to a range of 800 m. The complete launcher weight, with the mounting and fire control unit, is 20 kg.

RPO-A "Shmel"

Figure 66. RPO-A "Shmel"

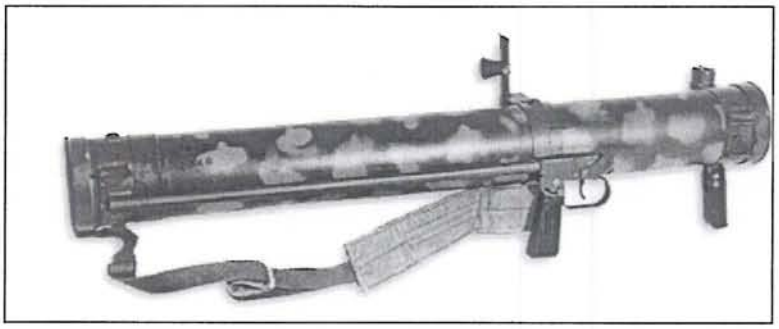

Figure 67. RPO-A

Country of origin: ..... Russia
Launcher caliber: ..... 93 mm
Warhead type: ..... Thermobaric
Warhead diameter: ..... 92.5 mm
Launcher length: ..... 920 mm
Max effective range: ..... 350 m (stationary)
Armor penetration: ..... N/A
Weight: ..... 11-12 kg (launcher)

The RPO-A Shmel (bumble bee) is not known to be in Iraq. However, it is available in nearby countries such as Syria and possibly Iran. It has been used in the past by Islamic militants in Afghanistan and Chechnya.

The RPO-A is a one shot disposable shoulder-fired grenade launcher primarily designed for use against personnel in buildings, bunkers or trenches. Not designed for armor penetration.

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Identification

RPO-A (thermobaric): two red bars/stripe stamped on the front and rear covers.

RPO-D (smoke): one yellow bar/stripe.

RPO-Z (incendiary): one red bar/stripe.

PG-7 Ammunition not Currently in IRAQ

None of the PG-7 warheads listed in this section have been confirmed to be currently in Iraq. However, they are to some degree available to a determined party with money. Tandem and thermobaric warheads are believed to be in several Middle Eastern countries, to include Syria and Iran. All of the following are available in Chechnya: the Bulgarian tandem warhead and the Bulgarian, North Korean, or Chinese thermobaric warheads. Organizations such as al Qaida have made attempts to purchase these weapons due to their effectiveness. It is likely that some of the systems will arrive in theater in small numbers at some point.

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Figure 68. PG-7L

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Table 4. PG-7L Identification

	Country of Origin	Warhead Diameter	Armor Penetration	Max Eff. Range	Self-Dest. Range
PG-7L	Bulgaria & Russia	94 mm	500 mm	300 m–x 200 m–y	1000 m/ 2.5-4 sec
X—Stationary Target Y—Moving Target N/A – No Self Destruct					

This warhead is not currently in Iraq.

The PG-7L is the top of the line RPG-7 unitary HEAT warhead. It is a 94-mm diameter rocket fired from the RPG-7 family of launchers. The PG-7L is currently produced only in Russia and Bulgaria.

The warhead is a unitary shaped charge and will penetrate around 500 mm of armor steel. The nose cone is smooth. A propelling charge wrapped around the fins launches the rocket from the Tandem HEAT Warheads

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Tandem HEAT Warheads

PG-7VR | Iranian Tandem | PG-7VLT

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Table 5. Tandem HEAT Warheads Identification

	Country of Origin	Warhead Diameter	Armor Penetration	Max Eff. Range
PG-7VR	Russia	65 mm – P 105 mm – M	820 mm +	200 m
IRANIAN Tandem	Iran	30 mm – P 80 mm – M	200-350 mm	300 m
PG-7VLT	Bulgaria	?? mm – P 93 mm – M	500-600 mm	200 m
P—Precursor warhead M—Main warhead				

No tandem warhead RPG-7 rounds have been confirmed in Iraq; however, the most likely to arrive in country are the PG-7VR and the Iranian Tandem.

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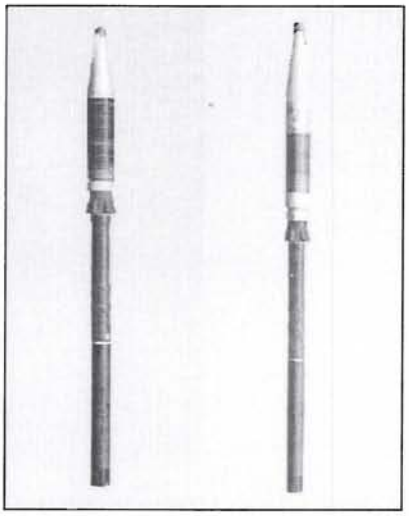

Figure 69. OFG-7V(Left Side) and KO-7V (Right Side)

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Table 6. APERS Warheads Identification

	Country of Origin	Warhead Diameter	Type	Max Eff. Range
OFG-7V	Bulgaria	57 mm	HE-Frag	250 m–D 2000 m–I
KO-7V	Bulgaria	57 mm	HEAT/ HE-Frag	250 m–D 2000 m–I
D—Direct fire I—Indirect fire				

Neither of the APERS warheads listed above are confirmed to be in Iraq.

The APERS warheads listed above do not have a self-destruct range or time device. All are point detonating.

Most APERS warheads have no armor penetration; the KO-7V is an exception. The KO-7V possesses a shaped charge in the cone and can penetrate up to 260 mm of RHA.

The OFG-7V & KO-7V are standard 57-mm rocket warheads placed on a PG rocket motor.

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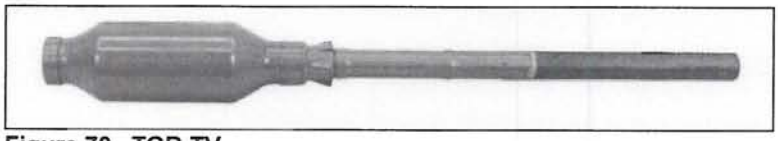
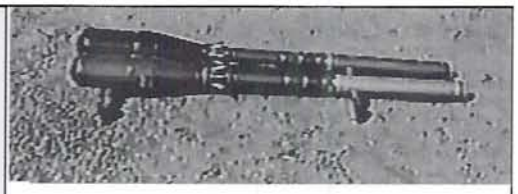


Figure 70. TGB-TV

GTB-7G/GTB-7BG



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No Picture Available

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Table 7. Theromobaric Warheads Identification

	Country of Origin	Warhead Diameter	Armor Penetration	Max Eff. Range
TGB-7V	Russia	105 mm	20 mm RHA	500 m–x 300 m–y
GTB-7G	Bulgaria	93 mm	0	200 m–x
UNK	N. Korea	??	??	??
UNK	China	105 mm	20 mm RHA	500 m–x 300 m–y
X—stationary target Y—moving target				

No Thermobaric warheads are known to be in Iraq.

The lethal agent of thermobaric weapons is the blast and pressure caused by the explosion. They do not penetrate armor. They are more effective in contained areas, such as indoors, than in open air.

Not much is known about the North Korean Thermobaric—except that it exists.

The only known thermobaric believed to have a self-destruct range limitation is the Chinese Type 69-1, which is claimed to be 1400 meters.

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5 USC 552 (b)(6)

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